STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 163869

TO: Ralph J Gitomer
Location: 3d65 / 3c18
Art Unit: 1655
Wednesday, September 21, 2005

Case Serial Number: 10/685198

From: Noble Jarrell
Location: Biotech-Chem Library
Rem 1B71
Phone: 272-2556

Noble.jarrell@uspto.gov

Search Notes

sira
Search and Information Resources Administration

```
=> b reg
FILE 'REGISTRY' ENTERED AT 14:30:29 ON 21 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   19 SEP 2005  HIGHEST RN 863478-08-4
DICTIONARY FILE UPDATES:  19 SEP 2005  HIGHEST RN 863478-08-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                   *
*********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide l1 tot

L1   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   11113-50-1  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Boric acid (9CI)  (CA INDEX NAME)
PR   10043-35-3
MF   Unspecified
CI   COM, MAN
LC   STN Files:   AQUIRE, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT,
       CHEMLIST, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC,
       PDLCOM*, TOXCENTER, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
              147 REFERENCES IN FILE CA (1907 TO DATE)
              147 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1   ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   10043-35-3  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Boric acid (H3BO3) (6CI, 8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Basilit B
CN   BC 140
CN   Boracic acid
CN   Boric acid
CN   Boric acid (B(OH)3)
CN   Borofax
CN   Boron trihydroxide
CN   Bortrac
CN   CB BORid
CN   Dia Flea-Mate
CN   Dr.'s 1 Flea Terminator DF
CN   Dr.'s 1 Flea Terminator DFPBO
CN   Dr.'s 1 Flea Terminator DT
CN   Dr.'s 1 Flea Terminator DTPBO
CN   Flea Prufe
CN   NSC 81726
CN   Orthoboric acid
CN   Orthoboric acid (B(OH)3)
CN   Orthoboric acid (H3BO3)
CN   Roach Away
CN   Roach Prufe
CN   Super Flea Eliminator
CN   Trihydroxyborane
AR   11113-50-1
DR   12795-04-9
MF   B H3 O3
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
       CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DETHERM*, DIOGENES,
       DIPPR*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*,
       HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC,
       PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT,
       USAN, USPAT2, USPATFULL, VTB
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

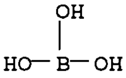

$B(OH)_3$

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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

           26851 REFERENCES IN FILE CA (1907 TO DATE)
            1815 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
           26890 REFERENCES IN FILE CAPLUS (1907 TO DATE)
               1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> d ide l5 tot

L5   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   6899-04-3  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Glutamine (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   (±)-Glutamine
CN   γ-Glutamine
CN   DL-Glutamine
CN   NSC 97925
FS   3D CONCORD
DR   585-21-7
MF   C5 H10 N2 O3
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST,
       CIN, CSCHEM, DETHERM*, DIOGENES, EMBASE, GMELIN*, IPA, MEDLINE, MRCK*,
    NIOSHTIC, PROMT, SPECINFO, TOXCENTER, USPAT2, USPATFULL, VTB
      (*File contains numerically searchable property data)
  Other Sources:   EINECS**
      (**Enter CHEMLIST File for up-to-date regulatory information)
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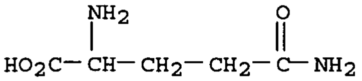


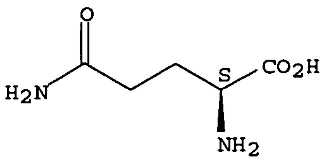
$HO_2C-CH(NH_2)-CH_2-CH_2-C(=O)-NH_2$

```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             209 REFERENCES IN FILE CA (1907 TO DATE)
               1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             212 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5   ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   56-85-9  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   L-Glutamine (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Glutamine, L- (8CI)
OTHER NAMES:
CN   (S)-2,5-Diamino-5-oxopentanoic acid
CN   γ-Glutamine
CN   2-Aminoglutaramic acid
CN   Acustasin
CN   Aesgen 14
CN   Cebrogen
CN   Glumin
CN   Glumin (amino acid)
CN   Glutamic acid 5-amide
CN   Glutamic acid amide
CN   Glutamine
CN   L-(+)-Glutamine
CN   L-2-Aminoglutaramidic acid
CN   L-Glutamic acid γ-amide
CN   Levoglutamide
CN   NSC 27421
CN   Pentanoic acid, 2,5-diamino-5-oxo-, (S)-
CN   Stimulina
FS   STEREOSEARCH
DR   32640-56-5
MF   C5 H10 N2 O3
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
       BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
       CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU,
       DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT,
       IFIUDB, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK*,
       MSDS-OHS, NAPRALERT, NIOSHTIC, PROMT, PS, RTECS*, SYNTHLINE, TOXCENTER,
       USAN, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**, WHO
         (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.
```



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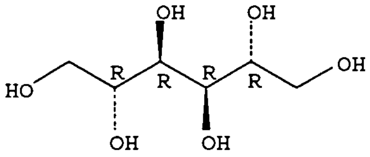
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

          23503 REFERENCES IN FILE CA (1907 TO DATE)
            461 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
          23538 REFERENCES IN FILE CAPLUS (1907 TO DATE)
              6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> d ide l38 tot

L38  ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   87-78-5  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Mannitol (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Mannidex 16700
CN   NSC 9256
FS   STEREOSEARCH
DR   133-43-7, 36413-61-3, 5149-40-6
MF   C6 H14 O6
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
       BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
       CHEMINFORMRX, CHEMLIST, CIN, DETHERM*, DIOGENES, EMBASE, GMELIN*,
       HODOC*, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, MEDLINE, NAPRALERT,
       NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2,
       USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

Relative stereochemistry.
```



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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

            258 REFERENCES IN FILE CA (1907 TO DATE)
             16 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            259 REFERENCES IN FILE CAPLUS (1907 TO DATE)
              1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L38  ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   69-65-8  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   D-Mannitol (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Cordycepic acid (6CI, 7CI)
CN   Mannitol, D- (8CI)
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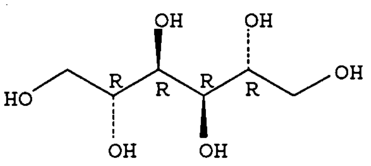
```
OTHER NAMES:
CN   Cerestar 16700
CN   D-(-)-Mannitol
CN   Diosmol
CN   E 421
CN   Isotol
CN   Manicol
CN   Maniton S
CN   Manna sugar
CN   Mannidex
CN   Mannigen
CN   Mannistol
CN   Mannit
CN   Mannit 60
CN   Mannit P
CN   Mannite
CN   Mannitol
CN   Mannitolum
CN   Mannogem 2080
CN   Mannogem EZ
CN   Marine Crystal
CN   Osmitrol
CN   Osmosal
CN   Pearlitol 100SD
CN   Resectisol
FS   STEREOSEARCH
DR   123897-58-5, 75398-80-0, 85085-15-0
MF   C6 H14 O6
CI   COM
LC   STN Files:   ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*,
       BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS,
       CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB,
       DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB,
       IFIPAT, IFIUDB, IMSCOSEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT,
       NIOSHTIC, PATDPASPC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SCISEARCH,
       SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.
```



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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

           16070 REFERENCES IN FILE CA (1907 TO DATE)
             354 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
           16101 REFERENCES IN FILE CAPLUS (1907 TO DATE)
               2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> d ide l13 tot

L13  ANSWER 1 OF 3  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   13840-56-7  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Boric acid (H3BO3), sodium salt (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
```
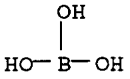

```
CN   Sodium borate
MF   B H3 O3 . x Na
CI   COM
LC   STN Files:   AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CEN,
       CHEMLIST, CIN, DIOGENES, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, PDLCOM*,
       PIRA, PROMT, TOXCENTER, TULSA, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
CRN  (10043-35-3)
```



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●x  Na


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             416 REFERENCES IN FILE CA (1907 TO DATE)
               9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             416 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L13  ANSWER 2 OF 3  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   1333-73-9  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Boric acid, sodium salt (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Sodium borate
DR   1344-07-6, 37331-49-0
MF   Unspecified
CI   COM, MAN
LC   STN Files:   AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO,
       CA, CABA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSNB,
       DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, PDLCOM*,
       PIRA, PROMT, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
             780 REFERENCES IN FILE CA (1907 TO DATE)
              13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             780 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L13  ANSWER 3 OF 3  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   1330-43-4  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Boron sodium oxide (B4Na2O7) (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Boric acid (H2B4O7), disodium salt (8CI)
CN   Sodium tetraborate (Na2B4O7) (7CI)
OTHER NAMES:
CN   Anhydrous borax
CN   Borax glass
CN   Disodium tetraborate
CN   FR 28
CN   Fused Borax
CN   Rasorite 65
CN   Sodium biborate
CN   Sodium borate
CN    Sodium boron oxide (Na2B4O7)
CN    Sodium tetraborate
CN    Spraybor
DR    12045-54-4, 12589-17-2, 13764-83-5, 163701-93-7, 1332-28-1, 19223-62-2,
      115372-65-1, 136349-33-2, 37199-25-0
MF    B4 Na2 O7
CI    COM, MAN
LC    STN Files:   AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO,
        CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST,
        CIN, CSCHEM, CSNB, DETHERM*, DIOGENES, EMBASE, HSDB*, IFICDB, IFIPAT,
        IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT,
        RTECS*, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL
          (*File contains numerically searchable property data)
      Other Sources:   DSL**, EINECS**, TSCA**
          (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             4688 REFERENCES IN FILE CA (1907 TO DATE)
               47 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             4696 REFERENCES IN FILE CAPLUS (1907 TO DATE)
                1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> d ide l32 tot

L32   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
RN    72785-07-0  REGISTRY
ED    Entered STN:  16 Nov 1984
CN    Boric acid (H3BO3), mixt. with borax (B4Na2O7.10H2O) (9CI)  (CA
      INDEX NAME)
OTHER CA INDEX NAMES:
CN    Borax (B4Na2O7.10H2O), mixt. contg. (9CI)
OTHER NAMES:
CN    BBK 3
CN    Borax-boric acid mixt.
CN    Boric acid-Solubor mixt.
MF    B4 Na2 O7 . B H3 O3 . 10 H2 O
CI    MXS
LC    STN Files:   AGRICOLA, CA, CAPLUS, TOXCENTER, USPATFULL

      CM   1

      CRN  10043-35-3
      CMF  B H3 O3
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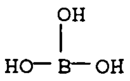

$\mathrm{HO{-}B(OH){-}OH}$

```
      CM   2

      CRN  1303-96-4
      CMF  B4 Na2 O7 . 10 H2 O
      CCI  MNS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
                4 REFERENCES IN FILE CA (1907 TO DATE)
                4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L32   ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2005 ACS on STN
```

```
RN   68439-36-1  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   D-Mannitol, ester with boric acid (H3BO3) (9CI)  (CA INDEX NAME)
FS   STEREOSEARCH
MF   C6 H14 O6 . x B H3 O3
LC   STN Files:   CA, CAPLUS, CHEMLIST, TOXCENTER, USPAT2, USPATFULL
     Other Sources:   NDSL**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)

     CM   1

     CRN  10043-35-3
     CMF  B H3 O3
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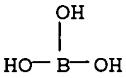

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     CM   2

     CRN  69-65-8
     CMF  C6 H14 O6

Absolute stereochemistry.
```

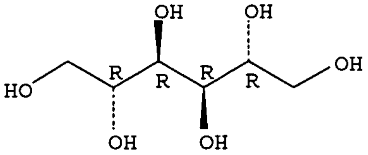

```
               7 REFERENCES IN FILE CA (1907 TO DATE)
               7 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> d his full

     (FILE 'HOME' ENTERED AT 13:05:10 ON 21 SEP 2005)

     FILE 'REGISTRY' ENTERED AT 13:05:40 ON 21 SEP 2005
                D SAV
                ACT GIT198BACID1/A
               ---------
L1            2 SEA ABB=ON  PLU=ON  "BORIC ACID"/CN
               ---------
                ACT GIT198BACID2/A
               ---------
L2              QUE ABB=ON  PLU=ON  (PMS OR MAN OR IDS)/CI OR COMPD OR
                COMPOUND OR UNSPECIFIED OR (D OR T)/ELS
L3   (       1666)SEA ABB=ON  PLU=ON  BH3O3
L4          967 SEA ABB=ON  PLU=ON  L3 NOT L2
               ---------
                ACT GIT198GLUT/A
               ---------
L5            2 SEA ABB=ON  PLU=ON  GLUTAMINE/CN
               ---------
                ACT GIT198GLUT1/A
               ---------
L6   (        729)SEA ABB=ON  PLU=ON  C5H10N2O3
L7              QUE ABB=ON  PLU=ON  (PMS OR MAN OR IDS)/CI OR COMPD OR
                COMPOUND OR UNSPECIFIED OR (D OR T)/ELS
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```
L8  (        494)SEA ABB=ON  PLU=ON  L6 NOT L7
L9            81 SEA ABB=ON  PLU=ON  L8 AND GLUTAMINE?
                ---------
                 ACT GIT198MANTOL/A
                ---------
L10              QUE ABB=ON  PLU=ON  (PMS OR MAN OR IDS)/CI OR COMPD OR
                 COMPOUND OR UNSPECIFIED OR (D OR T)/ELS
L11 (       1206)SEA ABB=ON  PLU=ON  C6H14O6
L12          249 SEA ABB=ON  PLU=ON  L11 NOT L10
                ---------
                 ACT GIT198NABOR1/A
                ---------
L13            3 SEA ABB=ON  PLU=ON  "SODIUM BORATE"/CN
                ---------
                 ACT GIT198NABOR2/A
                ---------
L14              QUE ABB=ON  PLU=ON  (PMS OR MAN OR IDS)/CI OR COMPD OR
                 COMPOUND OR UNSPECIFIED OR (D OR T)/ELS
L15 (        104)SEA ABB=ON  PLU=ON  BH3O3 AND NA/ELS
L16 (         79)SEA ABB=ON  PLU=ON  L15 NOT L14
L17 (        134)SEA ABB=ON  PLU=ON  B4NA2O7
L18 (         63)SEA ABB=ON  PLU=ON  L17 NOT L14
L19          126 SEA ABB=ON  PLU=ON  (L16 OR L18)
                ---------
                 ACT GIT198NAFOR/A
                ---------
L20              QUE ABB=ON  PLU=ON  (PMS OR MAN OR IDS)/CI OR COMPD OR
                 COMPOUND OR UNSPECIFIED OR (D OR T)/ELS
L21 (         93)SEA ABB=ON  PLU=ON  CH2O2 AND NA/ELS
L22           63 SEA ABB=ON  PLU=ON  L21 NOT L20
                ---------
L23           80 SEA ABB=ON  PLU=ON  L4 AND (L5 OR L9 OR L12 OR L13 OR L19 OR
                 L22)
L24           21 SEA ABB=ON  PLU=ON  L23 AND (ESTER OR BORAX OR BORON SODIUM
                 OXIDE OR B4NA2O7)
L25            6 SEA ABB=ON  PLU=ON  L24 AND NC<=3
L26            2 SEA ABB=ON  PLU=ON  L25 AND (MANNITOL OR H2O)
L27            0 SEA ABB=ON  PLU=ON  L9 AND (L4 OR L12 OR L19 OR L22)
L28            1 SEA ABB=ON  PLU=ON  L12 AND (L4 OR L9 OR L19 OR L22)
L29           79 SEA ABB=ON  PLU=ON  L19 AND (L4 OR L12 OR L9 OR L22)
L30            0 SEA ABB=ON  PLU=ON  L29 NOT L23
L31            0 SEA ABB=ON  PLU=ON  L22 AND (L4 OR L9 OR L12 OR L19)
L32            2 SEA ABB=ON  PLU=ON  (L26 OR L28)
L33          868 SEA ABB=ON  PLU=ON  L4 NOT (MXS/CI OR MIXT)
L34          822 SEA ABB=ON  PLU=ON  L33 NOT NA/ELS
L35           59 SEA ABB=ON  PLU=ON  L9 NOT (MXS/CI OR MIXT)
L36          180 SEA ABB=ON  PLU=ON  L12 NOT (MXS/CI OR MIXT)
L37           40 SEA ABB=ON  PLU=ON  L36 AND MANNITOL?
L38            2 SEA ABB=ON  PLU=ON  MANNITOL/CN
L39           52 SEA ABB=ON  PLU=ON  L19 NOT (MXS/CI OR MIXT)

     FILE 'HCAPLUS' ENTERED AT 14:32:15 ON 21 SEP 2005
L40        30510 SEA ABB=ON  PLU=ON  (L1 OR L34)
L41        52514 SEA ABB=ON  PLU=ON  (BORIC OR BORACIC) (W)ACID? OR H3BO3 OR
                 B(W)(OH3 OR OH(W)3) OR BC140 OR BC(W)140 OR BASILIT# OR
                 BOROFAX OR BORON (W)(TRIHYDROXIDE OR TRI(W)HYDROXIDE) OR
                 BORTRAC# OR CB (W)BORID OR FLEA (W)(MATE OR TERMINAT? OR
                 PRUFE#)
L42          496 SEA ABB=ON  PLU=ON  NSC81726 OR NSC(W)(81726 OR 81(W)726) OR
                 ORTHOBORIC(W)ACID# OR ROACH (W)(AWAY OR PRUFE) OR ROACHAWAY OR
                 ROACHPRUFE# OR FLEA (W)ELIMINAT? OR TRIHYDROXYBORANE OR
                 (TRIHYDROXY OR TRI(W)HYDROX?)(W)BORANE
L43        23894 SEA ABB=ON  PLU=ON  (L5 OR L35)
L44        45617 SEA ABB=ON  PLU=ON  GLUTAMINE OR NSC97925 OR NSC(W)(97925 OR
                 97(W)925)
L45           68 SEA ABB=ON  PLU=ON  (DIAMINO OR DI(W)AMINO)(2W)(OXOPENTANOIC
              OR OXO(W)PENTANOIC)(W)ACID# OR 2(W)AMINOGLUTARAM?(W)ACID# OR
              ACUSTASIN# OR AESGEN## OR CEBROGEN# OR GLUMIN# OR GLUTAMIC
              (W)ACID (W)AMIDE OR LEVOGLUTAMIDE# OR NSC27421 OR NSC27(W)241
              OR NSC(W)(27421 OR 27(W)421)
L46           0 SEA ABB=ON  PLU=ON  NSC81 (W)726
L47           0 SEA ABB=ON  PLU=ON  PENTANOIC (W)ACID# (2A)(DIAMINO OR
              DI(W)AMINO)(1A)OXO
L48           0 SEA ABB=ON  PLU=ON  STIMULINA
L49       16413 SEA ABB=ON  PLU=ON  (L37 OR L38)
L50       54286 SEA ABB=ON  PLU=ON  MANNIT? OR MANNIDEX? OR NSC9256 OR
              NSC(W)9256 OR CORDYCEPIC(W)ACID# OR CERESTAR? OR DIOSMOL# OR
              "E421" E(W)421 OR ISOTOL# OR MANI!O? OR MANNA (W)SUGAR? OR
              MANNIGEN OR MANNISTOL# OR MANNOGEM? OR MARINE (W)CRYSTAL OR
              OSMITROL OR OSMOSAL OR PEARLITOL# OR RESECTISOL#
L51        6459 SEA ABB=ON  PLU=ON  (L13 OR L39)
L52       41348 SEA ABB=ON  PLU=ON  (?SODIUM OR NA)(W)?BORATE OR H2B4O7 OR
              BORON (W)SODIUM (W)OXIDE? OR BORAX OR FR28 OR FR(W)28 OR
              RASORITE## OR NA2B4O7 OR SPRAYBOR#
L53          12 SEA ABB=ON  PLU=ON  L32
L54          67 SEA ABB=ON  PLU=ON  SOLUBOR#
L55        6152 SEA ABB=ON  PLU=ON  (L52 OR L54) AND L41
L56         995 SEA ABB=ON  PLU=ON  L50 AND L41
L57        3570 SEA ABB=ON  PLU=ON  L22
L58        4111 SEA ABB=ON  PLU=ON  (?SODIUM OR NA)(W)FORMATE
              E URINE/CT
              E E3+ALL
L59       94816 SEA ABB=ON  PLU=ON  URINE/CT
              E URINE/CT
              E E8+ALL
L60       39821 SEA ABB=ON  PLU=ON  URINE ANALYSIS/CT
              E GOLABEK R/AU
L61           6 SEA ABB=ON  PLU=ON  ("GOLABEK ROBERT S"/AU OR "GOLABEK ROBERT
              S JR"/AU)
              E MEHL J/AU
L62          37 SEA ABB=ON  PLU=ON  ("MEHL J"/AU OR "MEHL J B"/AU OR "MEHL J
              KURT"/AU OR "MEHL J T"/AU OR "MEHL J W"/AU OR "MEHL JACK J"/AU
              OR "MEHL JACK JUDSON"/AU)
              E DESAI J/AU
L63         204 SEA ABB=ON  PLU=ON  ("DESAI J"/AU OR "DESAI J A"/AU OR "DESAI
              J B"/AU OR "DESAI J C"/AU OR "DESAI J D"/AU OR "DESAI J G"/AU
              OR "DESAI J I"/AU OR "DESAI J J"/AU OR "DESAI J K"/AU OR
              "DESAI J M"/AU OR "DESAI J N"/AU OR "DESAI J P"/AU OR "DESAI J
              R"/AU OR "DESAI J S"/AU OR "DESAI J V"/AU OR "DESAI JAY"/AU OR
              "DESAI JAYRAJ S"/AU)
              E BECTON/CS,PA
L64        1532 SEA ABB=ON  PLU=ON  (BECTON/CS OR BECTON/PA)
L65        1404 SEA ABB=ON  PLU=ON  (BECTON AND DICKIN?)/CS,PA
              E BECT/CS,PA
L66             QUE ABB=ON  PLU=ON  PY<=2003 OR AY<=2003 OR PRY<=2003
L67        1040 SEA ABB=ON  PLU=ON  (L40 OR L41 OR L42) AND (L49 OR L50)
L68           1 SEA ABB=ON  PLU=ON  L67 AND (L61 OR L62 OR L63 OR L64 OR L65)
L69        1039 SEA ABB=ON  PLU=ON  L67 NOT L68
L70         121 SEA ABB=ON  PLU=ON  L69 AND (L51 OR L52)
L71           1 SEA ABB=ON  PLU=ON  L70 AND (L57 OR L58)
L72           2 SEA ABB=ON  PLU=ON  L70 AND (L43 OR L44 OR L45)
L73          10 SEA ABB=ON  PLU=ON  (L53 OR L55 OR L56) AND (L43 OR L44 OR
              L45)

     FILE 'REGISTRY' ENTERED AT 15:03:46 ON 21 SEP 2005
L74           1 SEA ABB=ON  PLU=ON  69-65-8

     FILE 'HCAPLUS' ENTERED AT 15:04:27 ON 21 SEP 2005
L75           1 SEA ABB=ON  PLU=ON  L73 AND (L57 OR L58)
L76           1 SEA ABB=ON  PLU=ON  (L68 OR L75)
L77           3 SEA ABB=ON  PLU=ON  (L71 OR L72)
L78           1 SEA ABB=ON  PLU=ON  L76 AND (L59 OR L60)
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     FILE 'BIOSIS' ENTERED AT 15:08:31 ON 21 SEP 2005
L79            4 SEA ABB=ON  PLU=ON  (L40 OR L41 OR L42 OR L46) AND (L43 OR L44
                 OR L45 OR L47 OR L48)
L80           29 SEA ABB=ON  PLU=ON  (L40 OR L41 OR L42 OR L46) AND (L49 OR
                 L50)
L81            5 SEA ABB=ON  PLU=ON  L80 AND (L51 OR L52)
L82          152 SEA ABB=ON  PLU=ON  (L53 OR L55 OR L56)
L83            0 SEA ABB=ON  PLU=ON  (L57 OR L58) AND (L79 OR L81 OR L82)
L84           29 SEA ABB=ON  PLU=ON  L82 AND (L79 OR L80 OR L81)
L85            8 SEA ABB=ON  PLU=ON  (L79 OR L80 OR L81 OR L84) AND ?URIN?
L86            0 SEA ABB=ON  PLU=ON  L85 AND URINE
                 E URINE/CT
L87            0 SEA ABB=ON  PLU=ON  URINE/CT AND L84
L88            1 SEA ABB=ON  PLU=ON  FLUID? AND L84

     FILE 'EMBASE' ENTERED AT 15:15:41 ON 21 SEP 2005
L89            7 SEA ABB=ON  PLU=ON  (L40 OR L41 OR L42 OR L46) AND (L43 OR L44
                 OR L45 OR L47 OR L48)
L90            5 SEA ABB=ON  PLU=ON  L80 AND (L51 OR L52)
L91            0 SEA ABB=ON  PLU=ON  (L57 OR L58) AND (L89 OR L90)
L92            5 SEA ABB=ON  PLU=ON  (L53 OR L55 OR L56) AND (L89 OR L90)
L93           12 SEA ABB=ON  PLU=ON  (L89 OR L90 OR L92)
                 E URINE/CT
                 E E3+ALL
L94        32759 SEA ABB=ON  PLU=ON  URINE/CT
                 E URINE ANAL/CT
                 E E4+ALL
                 E E2+ALL
L95        25563 SEA ABB=ON  PLU=ON  URINALYSIS+NT/CT
L96       283577 SEA ABB=ON  PLU=ON  URIN?
L97            0 SEA ABB=ON  PLU=ON  L93 AND (L94 OR L95 OR L96)

     FILE 'MEDLINE' ENTERED AT 15:19:38 ON 21 SEP 2005
L98            3 SEA ABB=ON  PLU=ON  (L40 OR L41 OR L42 OR L46) AND (L43 OR L44
                 OR L45 OR L47 OR L48)
L99           16 SEA ABB=ON  PLU=ON  (L40 OR L41 OR L42 OR L46) AND (L49 OR
                 L50)
L100           0 SEA ABB=ON  PLU=ON  (L98 OR L99) AND (L57 OR L58)
L101          16 SEA ABB=ON  PLU=ON  (L98 OR L99) AND L82
L102          19 SEA ABB=ON  PLU=ON  (L98 OR L99 OR L101)
                 E URINE/CT
                 E E3+ALL
L103      160034 SEA ABB=ON  PLU=ON  URINE/CT
L104      234576 SEA ABB=ON  PLU=ON  URINE?
L105           0 SEA ABB=ON  PLU=ON  L102 AND (L103 OR L104)

=> b hcap
FILE 'HCAPLUS' ENTERED AT 15:23:40 ON 21 SEP 2005
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FILE LAST UPDATED: 20 Sep 2005  (20050920/ED)
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 substance identification.

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L78  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   1988:469930  HCAPLUS
DN   109:69930
ED   Entered STN:  02 Sep 1988
TI   Urine specimen maintenance formula
IN   Desai, Jayraj S.; Mehl, Jack J.
PA   Becton, Dickinson and Co., USA
SO   U.S., 5 pp. Cont.-in-part of U.S. Ser. No. 378,586, abandoned.
     CODEN: USXXAM
DT   Patent
LA   English
IC   ICM  A01N059-14
INCL 424148000
CC   9-1 (Biochemical Methods)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   US 4726950           A     19880223    US 1982-437411         19821028
     US 4768653           A     19880906    US 1987-139224         19871229
PRAI US 1982-378586       A2    19820517
     US 1982-437411       A3    19821028
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 4726950      ICM    A01N059-14
                 INCL   424148000
 US 4726950      NCL    424/659.000; 424/660.000
 US 4768653      NCL    206/569.000; 206/524.800; 424/659.000
AB   A urine specimen maintenance formulation is provided which, when the urine
     specimen is added, maintains the specimen in the desired unaltered form
     for subsequent testing, without the need for refrigeration or other
     preservation measures, while simultaneously preventing any addnl.
     bacterial growth in the specimen.  The formula of the invention includes
     distilled water, mannitol, H3BO3, and Na
     borate.  Addnl., the formula may include a buffer, such as NaOAc,
     glutamine or other amino acids, and a surface-active or dispersing
     agent to facilitate concentration of cellular elements during subsequent
     centrifugation of the sample for microscopic examination, as well as to
     facilitate preservation of organisms.  Urine was inoculated with
     Escherichia coli, Citrobacter freundii, Proteus mirabilis, Streptococcus
     faecalis, or Pseudonomas aeruginosa and 5-mL samples were transferred into
     tubes containing 0.4 mL lyophilized and sterilized (2.0 Mrad 60Co) sorbitol
     maintenance formula (distilled water 100 mL, sorbitol 20, H3BO3 10,
     HCO2Na 5, NaOAc 5, glutamine 0.20 g, and 1% Tween 80 0.6 mL) and
     kept at 28°.  Samples (0.001 mL) of each preserved urine were
     streaked on blood agar plates at 0, 24, and 48 h.  The plates were
     incubated 24 h at 37° and then observed for colony growth.  The
     sorbitol-based formula satisfactorily maintained microbial populations in
     status quo number for 48 h at 28° and was comparable with a
     refrigerated urine control.
ST   urine bacteriostat compn mannitol borate; sorbitol borate urine
     bacteria maintenance
IT   Urine analysis
        (bacteriostatic maintenance composition for)
IT   Amino acids, biological studies
     RL: BIOL (Biological study)
        (bacteriostatic maintenance composition for urine containing)
IT   Bactericides, Disinfectants, and Antiseptics
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        (maintenance composition containing, for urine)
IT   Bacteria
     Citrobacter freundii
     Escherichia coli
     Proteus mirabilis
     Pseudomonas aeruginosa
     Streptococcus faecalis
        (maintenance of, in urine, composition for)
IT   Surfactants
        (nonionic, bacteriostatic maintenance composition for urine containing)
IT   50-70-4, Sorbitol, biological studies 56-85-9, Glutamine
     , biological studies 69-65-8   127-09-3, Sodium acetate
     141-53-7, Sodium formate   9005-63-4
     9005-65-6 10043-35-3, biological studies   14312-40-4
     RL: BIOL (Biological study)
        (bacteriostatic maintenance composition for urine containing)


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L77  ANSWER 1 OF 3  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2002:928122  HCAPLUS
DN   138:12504
ED   Entered STN:  06 Dec 2002
TI   Method for assaying biomolecules and other constituents using indicator
     conjugates with synthetic nucleounits in lateral flow, liquid, and dry
     chemistry techniques
IN   Smith, Jack V.
PA   USA
SO   U.S. Pat. Appl. Publ., 46 pp.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C12Q001-68
INCL 435006000
CC   9-16 (Biochemical Methods)
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
     ---------------     ----   --------   --------------------  --------
PI   US 2002182600        A1    20021205   US 2001-829563        20010411
PRAI US 2001-829563             20010411
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 US 2002182600   ICM    C12Q001-68
                 INCL   435006000
 US 2002182600   NCL    435/006.000
AB   The present invention is a method for the use of particles made up of
     nucleotides or fragments of base groups of DNA and RNA mols. herein
     referred to as synthetic nucleounits which can be used as recognition
     mols. with specificity and sensitivity significantly greater than that of
     antibodies which are used in clin. diagnostics, biotechnol., and research.
     The method for detecting an analyte using nucleounits targeted to the
     analyte comprises (1) identifying a nucleounit from a mixture of synthetic
     random sequences of nucleounit libraries, (2) conjugating the nucleounit
     to an indicator for the analyte, and (3) detecting the analyte using the
     nucleounit-indicator conjugate in a buffer.  Step 1 is carried out by (a)
     contacting the analyte with the mixture of synthetic random sequences of
     nucleounit libraries such that some nucleounits bind the analyte, (b)
     removing the unbound nucleounits by partitioning, and (c) amplifying the
     remaining nucleounits by PCR to obtain an enriched solution of nucleounits
     with high affinity for the analyte.  Thus, a method and lateral flow test
     strip for detection of cytomegalovirus (CMV) presence in a biol. sample
     such as serum or urine is described.  The strip is prepared with three
     solns., one containing anti-CMV antibodies, one containing "nucleounit to CMV
     antibody conjugated to red microparticles" and "red microparticles", and
     another containing "nucleounit to colored particles".  The "nucleounit" may be
     an oligonucleotide aptamer specific for anti-CMV antibodies.
ST   dipstick lateral flow device oligonucleotide aptamer biomol drug detection
IT   Corticosteroids, analysis
     RL: ANT (Analyte); ANST (Analytical study)
        (17-hydroxy; method for assaying biomols. and other constituents using
        indicator conjugates with synthetic nucleounits in lateral flow, liquid,
        and dry chemical techniques)
IT   Steroids, analysis
     RL: ANT (Analyte); ANST (Analytical study)
        (17-ketogenic; method for assaying biomols. and other constituents
        using indicator conjugates with synthetic nucleounits in lateral flow,
        liquid, and dry chemical techniques)
IT   Proteins
     RL: ANT (Analyte); ANST (Analytical study)
        (C-reactive; method for assaying biomols. and other constituents using
        indicator conjugates with synthetic nucleounits in lateral flow, liquid,
        and dry chemical techniques)
IT   Antigens
     RL: ANT (Analyte); ANST (Analytical study)
        (EBNA (Epstein-Barr virus-associated nuclear antigen), IgG binding to;
        method for assaying biomols. and other constituents using indicator
        conjugates with synthetic nucleounits in lateral flow, liquid, and dry
        chemical techniques)
IT   Antigens
     RL: ANT (Analyte); ANST (Analytical study)
        (Epstein-Barr early; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Cytomegalovirus
     Mycoplasma
     Rubella
     Toxoplasma
        (IgG and IgM binding to; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Helicobacter pylori
     Human herpesvirus 1
     Human herpesvirus 2
        (IgG binding to; method for assaying biomols. and other constituents
        using indicator conjugates with synthetic nucleounits in lateral flow,
        liquid, and dry chemical techniques)
IT   Legionella
        (IgG, IgM, and IgA binding to; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (IgG, anti-peroxidase; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antigens
     RL: ANT (Analyte); ANST (Analytical study)
        (VCA (viral capsid antigen), IgG and IgM binding to Epstein-Barr;
        method for assaying biomols. and other constituents using indicator
        conjugates with synthetic nucleounits in lateral flow, liquid, and dry
        chemical techniques)
IT   Entamoeba histolytica
        (amebiasis; method for assaying biomols. and other constituents using
        indicator conjugates with synthetic nucleounits in lateral flow, liquid,
        and dry chemical techniques)
IT   Proteins
     RL: ANT (Analyte); ANST (Analytical study)
        (amyloid-associated; method for assaying biomols. and other constituents
        using indicator conjugates with synthetic nucleounits in lateral flow,
        liquid, and dry chemical techniques)
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IT   Neutrophil
        (antibodies binding to; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Cardiolipins
     RL: ANT (Analyte); ANST (Analytical study)
        (antibodies binding to; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (antinuclear; method for assaying biomols. and other constituents using
        indicator conjugates with synthetic nucleounits in lateral flow, liquid,
        and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (autoantibodies, Jo-1; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (autoantibodies, SS-A/Ro; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (autoantibodies, SS-B/La; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (autoantibodies, Scl-70; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (autoantibodies, Sm (Smith antigen); method for assaying biomols. and
        other constituents using indicator conjugates with synthetic
        nucleounits in lateral flow, liquid, and dry chemical techniques)
IT   Antibodies and Immunoglobulins
     RL: ANT (Analyte); ANST (Analytical study)
        (autoantibodies, Sm/RNP; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Antigens
     RL: ANT (Analyte); ANST (Analytical study)
        (cancer antigen 125; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Hemoglobins
     RL: ANT (Analyte); ANST (Analytical study)
        (carboxyhemoglobins; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Latex
        (colored particles of, conjugates; method for assaying biomols. and
        other constituents using indicator conjugates with synthetic
        nucleounits in lateral flow, liquid, and dry chemical techniques)
IT   Metals, biological studies
     Plastics, biological studies
     Rubber, biological studies
     RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical
     study); BIOL (Biological study); USES (Uses)
        (colored particles of, conjugates; method for assaying biomols. and
        other constituents using indicator conjugates with synthetic
        nucleounits in lateral flow, liquid, and dry chemical techniques)
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IT   Complement
     RL: ANT (Analyte); ANST (Analytical study)
        (components of; method for assaying biomols. and other constituents
        using indicator conjugates with synthetic nucleounits in lateral flow,
        liquid, and dry chemical techniques)
IT   DNA
     RL: ANT (Analyte); ANST (Analytical study)
        (double-stranded, antibodies binding to; method for assaying biomols.
        and other constituents using indicator conjugates with synthetic
        nucleounits in lateral flow, liquid, and dry chemical techniques)
IT   Antigens
     RL: ANT (Analyte); ANST (Analytical study)
        (extractable nuclear; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Fats and Glyceridic oils, analysis
     RL: ANT (Analyte); ANST (Analytical study)
        (fecal; method for assaying biomols. and other constituents using
        indicator conjugates with synthetic nucleounits in lateral flow, liquid,
        and dry chemical techniques)
IT   Proteins
     RL: ANT (Analyte); ANST (Analytical study)
        (fetoproteins; method for assaying biomols. and other constituents
        using indicator conjugates with synthetic nucleounits in lateral flow,
        liquid, and dry chemical techniques)
IT   Enzymes, biological studies
     RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical
     study); BIOL (Biological study); USES (Uses)
        (galactosaminidase, indicator; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Enzymes, biological studies
     RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical
     study); BIOL (Biological study); USES (Uses)
        (glucosaminidase, indicator; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Lipoproteins
     RL: ANT (Analyte); ANST (Analytical study)
        (high-d.; method for assaying biomols. and other constituents using
        indicator conjugates with synthetic nucleounits in lateral flow, liquid,
        and dry chemical techniques)
IT   Enzymes, biological studies
     RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical
     study); BIOL (Biological study); USES (Uses)
        (hydroxybenzoate hydroxylase, indicator; method for assaying biomols.
        and other constituents using indicator conjugates with synthetic
        nucleounits in lateral flow, liquid, and dry chemical techniques)
IT   Enzymes, biological studies
     RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical
     study); BIOL (Biological study); USES (Uses)
        (maltosidase, indicator; method for assaying biomols. and other
        constituents using indicator conjugates with synthetic nucleounits in
        lateral flow, liquid, and dry chemical techniques)
IT   Angiogenesis
     Blood
     Blood analysis
     Human herpesvirus 3
     Human immunodeficiency virus
     Leukocyte
     Urine analysis
        (method for assaying biomols. and other constituents using indicator
        conjugates with synthetic nucleounits in lateral flow, liquid, and dry
        chemical techniques)
IT   Albumins, analysis
     Alcohols, analysis
```

Antibodies and Immunoglobulins
Antibodies and Immunoglobulins
Apolipoproteins
Bile acids
Cannabinoids
Carotenes, analysis
Catecholamines, analysis
Estrogens
Fatty acids, analysis
Ferritins
Fibrinogens
Gastric acid
Glycerides, analysis
Gonadotropins
Haptoglobin
Hemoglobins
Hemoglobins, methemoglobins
Hemopexins
Ketone bodies
Lecithins
Lipoproteins
Melanins
Mucopolysaccharides, analysis
Myelin basic protein
Myoglobins
Opioids
Pentoses
Phenols, analysis
Phospholipids, analysis
Prostaglandins
Prostate-specific antigen
Rheumatoid factors
Thyroglobulin
Transcortins
Transferrins
Transthyretin
Vitamins
α1-Acid glycoprotein
RL: ANT (Analyte); ANST (Analytical study)
(method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT Antibodies and Immunoglobulins
RL: ANT (Analyte); ANST (Analytical study)
(microsomal; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT Aptamers
(oligonucleotide; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT Antibodies and Immunoglobulins
RL: ANT (Analyte); ANST (Analytical study)
(thyroid; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT Globulins, analysis
RL: ANT (Analyte); ANST (Analytical study)
(thyroxine-binding; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT Pigments, biological
(urobilinogens; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 128028-50-2, Proteinase-3

RL: ANT (Analyte); ANST (Analytical study)
(IgG binding to; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 50-36-2, Cocaine
RL: ANT (Analyte); ANST (Analytical study)
(and metabolites; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 144-62-7, Ethanedioic acid, analysis
RL: ANT (Analyte); ANST (Analytical study)
(buffer/analyte; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 50-21-5, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)
(buffer/analyte; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 77-86-1, TRIS 77-92-9, Citric acid, analysis 102-71-6, Triethanolamine, analysis 103-47-9, CHES 110-15-6, Succinic acid, analysis 150-25-4, BICINE 463-79-6, Carbonic acid, analysis 497-19-8, Sodium carbonate, analysis 868-14-4, Potassium hydrogen tartrate 877-24-7, Potassium hydrogen phthalate 1132-61-2, MOPS 1135-40-6, CAPS 1303-96-4, **Borax 1330-43-4**, **Sodium tetraborate** 4432-31-9, MES 5625-37-6, PIPES 5704-04-1, TRICINE 6976-37-0, BIS-TRIS 7365-44-8, TES 7365-45-9, HEPES 7365-82-4, ACES 7601-89-0, Sodium perchlorate 7601-90-3, Perchloric acid, analysis 7664-38-2, Phosphoric acid, analysis 7664-93-9, Sulfuric acid, analysis 7697-37-2, Nitric acid, analysis 7775-09-9, Sodium chlorate **10043-35-3**, **Boric acid**, analysis 10191-18-1, BES 10196-30-2, 2-Amino-2-ethyl-1-propanol 13530-68-2, Chromic acid 16052-06-5, EPPS 26239-55-4, ADA 29915-38-6, N-Tris[Hydroxymethyl]methyl-3-aminopropanesulfonic acid 64431-96-5, BIS-TRIS PROPANE 68189-43-5, POPSO 68399-77-9, MOPSO 68399-78-0, HEPPSO 68399-79-1, AMPSO 68399-80-4, DIPSO 68399-81-5, TAPSO 73463-39-5, CAPSO 109191-31-3, N-[2-Acetamido]-2-aminoethanesulfonic acid)
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(buffer; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 9001-60-9, Lactate dehydrogenase 9001-78-9, Alkaline phosphatase 9002-12-4, Uricase
RL: ANT (Analyte); ANST (Analytical study)
(indicator/analyte; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 53-59-8, NADP 53-84-9, Nicotinamide adenine dinucleotide 69-79-4 83-07-8, 4-Aminoantipyrine 87-66-1, Pyrogallol 91-67-8, N,N-Diethyl-m-toluidine 91-95-2, 3,3'-Diaminobenzidine 108-95-2, Phenol, biological studies 119-90-4 120-83-2, 2,4-Dichlorophenol 121-69-7, Dimethylaniline, biological studies 132-32-1, 3-Amino-9-ethyl carbazole 298-83-9, Nitro Blue Tetrazolium 369-07-3, 2-Nitrophenyl-β-D-galactopyranoside 1094-61-7, Nicotinamide mononucleotide 1128-67-2, 3-Methyl-2-benzothiazolinonehydrazone 1851-07-6, Nicotinamide hypoxanthine dinucleotide 2280-44-6, Glucopyranose 2438-80-4 3025-88-5, 2-5, Dimethyl-2,5-dihydroperoxyhexane 3150-24-1 3416-24-8, Glucosamine 5094-33-7, 4-Aminophenyl-β-D-galactopyranoside 6160-80-1, 4-Methylumbelliferyl-β-D-glucuronide 6556-12-3, Glucuronic acid 6739-64-6, Nicotinamide hypoxanthine dinucleotide phosphate 7240-90-6 7298-93-3, α-NAD 7535-00-4, Galactosamine 9001-34-7, Galactosidase 9001-37-0, Glucose oxidase 9001-40-5, Glucose-6-phosphate dehydrogenase 9001-45-0, Glucuronidase 9001-46-1, Glutamate dehydrogenase 9001-55-2, Hydroxybutyrate dehydrogenase 9001-64-3, Malate dehydrogenase 9001-65-4, **Mannitol** dehydrogenase 9001-68-7, NADPH oxidoreductase 9002-17-9, Xanthine oxidase 9003-99-0, Peroxidase 9013-05-2, Phosphatase 9013-79-0, Esterase 9016-17-5, Aryl sulfatase 9016-18-6, Carboxyl esterase 9025-35-8, α-Galactosidase 9026-00-0, Cholesterol esterase 9028-14-2, Glycerol dehydrogenase 9028-53-9, Glucose dehydrogenase 9028-67-5, Choline oxidase 9028-76-6, Cholesterol oxidase 9028-84-6, Formaldehyde dehydrogenase 9029-44-1, Ascorbate oxidase 9031-11-2, β-Lactosidase 9032-92-2, Glycosidase 9033-06-1, Glucosidase 9035-73-8, Oxidase 9035-82-9, Dehydrogenase 9046-28-0, Glycerophosphate oxidase 9046-59-7, Hydroxylase 9055-15-6, Oxidoreductase 9067-74-7, Arabinosidase 9068-67-1, Sulfatase 9073-63-6, Alcohol oxidase 9075-65-4, Glycerol-3-phosphate dehydrogenase 9082-71-7, Leucine dehydrogenase 10257-31-5, Xylopyranose 26281-43-6 28752-68-3, ABTS 33993-25-8, 2-Naphthyl-β-D-galactopyranoside 36473-36-6 36783-03-6, TOPS 37211-66-8, Mannosidase 37329-65-0, β-D-Cellobiosidase 45935-73-7, p-Hydroxybenzene Sulfonate 46032-76-2, Mannopyranose 46489-28-5 50443-29-3 51349-63-4 51652-08-5 54827-17-7, 3,3',5,5'-Tetramethylbenzidine 56846-39-0 56973-46-7 61116-22-1, Acyl-CoA oxidase 72943-20-5 82611-88-9 82692-96-4, ADOS 83777-30-4, DAOS 88795-34-0, ADPS 89299-64-9, Arabinopyranose 90836-13-8, ALOS 91395-87-8 93863-88-8 94129-58-5 96497-76-6 97753-82-7 99304-66-2, DAPS 99304-67-3, MAPS 101764-19-6 102636-89-5, ALPS 110592-38-6 111070-05-4, Fucosidase 112046-91-0 113079-84-8 125858-89-1, Xylosidase 126400-78-0, N-Ethyl-N-(2-hydroxy-3-sulfopropyl)-3,5-dimethylaniline 126787-65-3 135622-84-3, Fructose dehydrogenase 138182-21-5 181066-50-2, Bis-MAPS-C 2 207595-15-1 207727-11-5 380637-04-7, MADB 477532-32-4

RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(indicator; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 50-00-0, Formaldehyde, analysis 50-02-2, Dexamethasone 50-06-6, Phenobarbital, analysis 50-22-6, Corticosterone 50-23-7, Cortisol 50-27-1, Estriol 50-28-2, Estradiol, analysis 50-33-9, Phenylbutazone, analysis 50-47-5, Desipramine 50-48-6, Amitriptyline 50-49-7, Imipramine 50-52-2, Thioridazine 50-53-3, Chlorpromazine, analysis 50-56-6, Oxytocin, analysis 50-67-9, Serotonin, analysis 50-81-7, Ascorbic acid, analysis 50-99-7, Glucose, analysis 51-06-9, Procainamide 51-35-4, Hydroxyproline 51-48-9, Thyroxine, analysis 52-39-1, Aldosterone 52-90-4, Cysteine, analysis 53-02-1, Tetrahydrocortisol 53-16-7, Estrone, analysis 53-43-0, Dehydroepiandrosterone 54-16-0, 5-Hydroxyindoleacetic acid, analysis 54-36-4, Metyrapone 54-85-3, Isoniazid 55-10-7, Vanillylmandelic acid 56-40-6, Glycine, analysis 56-41-7, Alanine, analysis 56-54-2, Quinidine 56-73-5, Glucose-6-phosphate 56-75-7, Chloramphenicol 56-81-5, Glycerol, analysis **56-85-9**, **Glutamine**, analysis 56-89-3, Cystine, analysis 57-00-1, Creatine 57-12-5, Cyanide, analysis 57-13-6, Urea, analysis 57-27-2, Morphine, analysis 57-41-0, Diphenylhydantoin 57-42-1, Meperidine 57-43-2, Amobarbital 57-48-7, Fructose, analysis 57-50-1, Sucrose, analysis 57-53-4, Meprobamate 57-83-0, Progesterone, analysis 57-88-5, Cholesterol, analysis 58-08-2, Caffeine, analysis 58-22-0, Testosterone 58-25-3, Chlordiazepoxide 58-55-9, Theophylline, analysis 58-86-6, Xylose, analysis 59-05-2, Methotrexate 59-23-4, Galactose, analysis 59-30-3, analysis 59-67-6, Niacin, analysis 60-18-4, Tyrosine, analysis 60-27-5, Creatinine 60-92-4, Cyclic AMP 61-90-5, Leucine, analysis 62-44-2, Phenacetin 63-05-8, Androstenedione 63-42-3, Lactose 63-68-3, Methionine, analysis 63-91-2, Phenylalanine, analysis 64-17-5, Ethanol, analysis 64-77-7, Tolbutamide 64-85-7, 11-Deoxycorticosterone 67-56-1, Methanol, analysis 68-60-0, Tetrahydrodeoxycortisol 68-96-2, 17-Hydroxyprogesterone 69-72-7D, Salicylic acid, derivs. 69-93-2, Uric acid, analysis 70-18-8, Glutathione, analysis 72-18-4, Valine, analysis 72-44-6, Methaqualone 72-69-5, Nortriptyline 73-32-5, Isoleucine, analysis 76-42-6, Oxycodone 76-57-3, Codeine 76-73-3, Secobarbital 76-74-4, Pentobarbital 76-75-5, Thiopental 76-99-3, Methadone 77-10-1, Phencyclidine 77-21-4, Glutethimide 77-41-8, Methsuximide 77-67-8, Ethosuximide 79-14-1, Glycolic acid, analysis 79-83-4, Pantothenic acid 80-92-2 81-25-4, Cholic acid 82-58-6, Lysergic acid 83-44-3, Deoxycholic acid 83-88-5, Riboflavin, analysis 86-34-0, Phensuximide 87-86-5, Pentachlorophenol 97-31-4, Normetanephrine 99-66-1, Valproic acid 103-90-2, Acetaminophen 107-21-1, Ethylene glycol, analysis 113-18-8, Ethchlorvynol 123-63-7, Paraldehyde 125-33-7, Primidone 125-64-4, Methyprylon 127-17-3, Pyruvic acid, analysis 137-58-6, Lidocaine 143-74-8, Phenolsulfonphthalein 145-13-1, Pregnenolone 152-58-9, 11-Deoxycortisol 298-46-4, Carbamazepine 299-42-3, Ephedrine 300-62-9, Amphetamine 302-04-5, Thiocyanate, analysis 302-17-0, Chloral hydrate 306-08-1, Homovanillic acid 359-83-1, Pentazocine 438-60-8, Protriptyline 439-14-5, Diazepam 451-13-8, Homogentisic acid 466-99-9, Hydromorphone 469-62-5, Propoxyphene 487-90-1, Porphobilinogen 521-18-6, Dihydrotestosterone 525-66-6, Propranolol 537-46-2, Methamphetamine 553-12-8, Protoporphyrin 555-30-6, Methyldopa 591-81-1, γ-Hydroxybutyric acid 604-75-1, Oxazepam 635-65-4, Bilirubin, analysis 651-48-9, Dehydroepiandrosterone sulfate 846-49-1, Lorazepam 1098-45-9, Pregnanetriol 1319-82-0, Aminocaproic acid 1330-20-7, Xylene, analysis 1393-25-5, Secretin 1403-66-3, Gentamicin 1404-90-6, Vancomycin 1622-61-3, Clonazepam 1668-19-5, Doxepin 3737-09-5, Disopyramide 4205-90-7, Clonidine 4429-04-3, Fructosamine 4685-14-7, Paraquat 4697-36-3, Carbenicillin 5001-33-2, Metanephrine 5817-39-0, Reverse triiodothyronine 6027-13-0, Homocysteine 6893-02-3, Triiodothyronine 7439-89-6, Iron, analysis 7439-92-1, Lead, analysis 7439-93-2, Lithium, analysis 7439-95-4, Magnesium, analysis 7439-97-6, Mercury, analysis 7439-98-7, Molybdenum, analysis 7440-02-0, Nickel, analysis 7440-28-0, Thallium, analysis 7440-47-3, Chromium, analysis 7440-57-5, Gold, analysis 7440-66-6, Zinc, analysis 7440-70-2, Calcium, analysis 7782-49-2, Selenium, analysis 7783-06-4, Hydrogen sulfide, analysis 8063-07-8, Kanamycin 9000-86-6, Alanine aminotransferase 9000-92-4, Amylase 9000-94-6, Antithrombin 9001-08-5, Pseudocholinesterase 9001-10-9, Pepsinogen 9001-15-4, Creatine kinase 9001-58-5, Isocitrate dehydrogenase 9001-62-1, Lipase 9001-63-2, Lysozyme 9001-77-8, Acid phosphatase 9001-80-3, Phosphofructokinase 9001-91-6, Plasminogen 9002-60-2, Adrenocorticotropic hormone, analysis 9002-61-3, Chorionic gonadotropin 9002-64-6, Parathyroid hormone 9002-68-0, Follicle stimulating hormone 9002-71-5, Thyroid stimulating hormone 9002-72-6, Growth hormone 9002-76-0, Gastrin 9004-07-3, Chymotrypsin 9004-10-8, Insulin, analysis 9007-12-9, Calcitonin 9007-92-5, Glucagon, analysis 9014-48-6, Transketolase 9015-94-5, Renin, analysis 9024-52-6, Aldolase 9035-54-5, Placental lactogen 9035-68-1, Proinsulin 9035-81-8, Antitrypsin 11000-17-2, Antidiuretic hormone 11016-39-0, Properdin 12794-10-4D, Benzodiazepine, derivs. 14797-65-0, Nitrite, analysis 14838-15-4, Phenylpropanolamine 15687-27-1, Ibuprofen 17617-23-1, Flurazepam 20830-75-5, Digoxin 23887-31-2, Clorazepate 24305-27-9, Thyrotropin-releasing hormone 24959-67-9, Bromide, analysis 26316-36-9, Uroporphyrin 27121-71-7, Coproporphyrin 29679-58-1, Fenoprofen 32795-44-1, n-Acetylprocainamide 32986-56-4, Tobramycin 37221-79-7, Vasoactive intestinal polypeptide 37517-28-5, Amikacin 39335-01-8, Macroamylase 51481-61-9, Cimetidine 54143-55-4, Flecainide 56391-56-1, Netilmicin 59112-80-0, c-Peptide 59763-91-6, Pancreatic polypeptide 59865-13-3, Cyclosporine 67763-96-6, Somatomedin c 69776-17-6 85876-02-4, Glutamyltransferase 152923-57-4, Lutropin

RL: ANT (Analyte); ANST (Analytical study)

(method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT 7727-37-9, Nitrogen, analysis

RL: ANT (Analyte); ANST (Analytical study)

(protein-associated and nonprotein; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

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L77  ANSWER 2 OF 3  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   1999:401532  HCAPLUS
DN   131:35917
ED   Entered STN:  30 Jun 1999
TI   Liquid compositions for disinfection of contact lenses based on
     Polyquaternium compounds
IN   Ibaraki, Keiko; Mizuno, Hideto; Goshima, Takehiko; Shimbo, Keiko
PA   Tomey Corp., Japan
SO   Eur. Pat. Appl., 17 pp.
     CODEN: EPXXDW
DT   Patent
LA   English
IC   ICM  A61L002-18
     ICS  C11D003-48; C11D003-33; C11D003-37
CC   63-8 (Pharmaceuticals)
     Section cross-reference(s): 10, 62
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
     ---------------     ----   --------   --------------------  --------
PI   EP 923950            A2    19990623   EP 1998-310417        19981218
     EP 923950            A3    20001227
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     JP 11249087          A2    19990917   JP 1998-310175        19981030
PRAI JP 1997-349273       A     19971218
     JP 1998-310175       A     19981030
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  -----------------------------------------------
 EP 923950       ICM    A61L002-18
                 ICS    C11D003-48; C11D003-33; C11D003-37
 EP 923950       ECLA   A61L012/14D2; C11D003/00B13; C11D003/00B16;
                        C11D003/20B3; C11D003/33
AB   A liquid composition for cleaning, storing and disinfecting contact lenses
     contains (1) at least one disinfecting component selected from the group
     of Polyquaternium-6, Polyquaternium-7, Polyquaternium-16, and
     Polyquaternium-22, (2) a nonionic tonicity agent and/or (3) an amino acid.
     An aqueous solution containing phosphate buffer, Polyquaternium-6 (0.001%), and
     glycerol (1.7%) was prepared and showed a high degree of safety without
     inhibiting the proliferation of the cells.
ST   Polyquaternium disinfectant contact lens liq
IT   Buffers
     Contact lenses
     Disinfectants
        (liquid compns. for disinfection of contact lenses based on
        Polyquaternium compds.)
IT   Amino acids, biological studies
     RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (liquid compns. for disinfection of contact lenses based on
        Polyquaternium compds.)
IT   Drug delivery systems
        (liqs.; liquid compns. for disinfection of contact lenses based on
        Polyquaternium compds.)
IT   Surfactants
        (nonionic; liquid compns. for disinfection of contact lenses based on
        Polyquaternium compds.)
IT   Quaternary ammonium compounds, biological studies
     RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or
     effector, except adverse); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (polymers; liquid compns. for disinfection of contact lenses based on
        Polyquaternium compds.)
IT   26062-79-3, Polyquaternium-6   26590-05-6, Polyquaternium-7   53694-17-0,
     Polyquaternium-22   95144-24-4, Polyquaternium-16   125148-42-7, Swanol AM
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RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or
effector, except adverse); BSU (Biological study, unclassified); THU
(Therapeutic use); BIOL (Biological study); USES (Uses)
(liquid compns. for disinfection of contact lenses based on
Polyquaternium compds.)

IT 52-90-4, L-Cysteine, biological studies 56-40-6, Glycine, biological
studies 56-45-1, L-Serine, biological studies 56-81-5,
1,2,3-Propanetriol, biological studies 56-84-8, Aspartic acid,
biological studies **56-85-9, L-Glutamine**, biological
studies 56-86-0, Glutamic acid, biological studies 56-87-1, L-Lysine,
biological studies 56-89-3, L-Cystine, biological studies 57-00-1
57-55-6, 1,2-Propanediol, biological studies 60-18-4, L-Tyrosine,
biological studies 61-90-5, L-Leucine, biological studies 62-57-7,
α-Aminoisobutyric acid 63-68-3, L-Methionine, biological studies
63-91-2, L-Phenylalanine, biological studies **69-65-8**, D-
Mannitol 70-26-8, L-Ornithine 70-47-3, Asparagine, biological
studies 71-00-1, L-Histidine, biological studies 72-18-4, L-Valine,
biological studies 72-19-5, L-Threonine, biological studies 73-22-3,
L-Tryptophan, biological studies 73-32-5, Isoleucine, biological studies
74-79-3, L-Arginine, biological studies 77-86-1 107-97-1, Sarcosine
139-33-3, Disodium EDTA 147-85-3, L-Proline, biological studies
302-72-7, Alanine 302-84-1, Serine 407-41-0, L-Phosphoserine
542-32-5, α-Aminoadipic acid 1303-96-4, **Borax**
2835-81-6, α-Aminobutyric acid 7647-14-5, Sodium chloride,
biological studies 10039-32-4, Disodium hydrogenphosphate dodecahydrate
10043-35-3, Boric acid, biological studies
13472-35-0, Sodium dihydrogen phosphate dihydrate 16177-21-2, Sodium
L-glutamate 106392-12-5, Polyoxyethylene-polyoxypropylene block
copolymer
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(liquid compns. for disinfection of contact lenses based on
Polyquaternium compds.)

L77 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1968:500157 HCAPLUS
DN 69:100157
ED Entered STN: 12 May 1984
TI Use of chronoconductometric method for studying the interaction of strong
acids with mixtures of bases and salts of weak acids
AU Khudyakova, T. A.; Vostokov, V. M.
CS Gor'k. Politekh. Inst. im. Zhdanova, Gorki, USSR
SO Izvestiya Vysshikh Uchebnykh Zavedenii, Khimiya i Khimicheskaya
Tekhnologiya (1968), 11(7), 766-9
CODEN: IVUKAR; ISSN: 0579-2991
DT Journal
LA Russian
CC 68 (Phase Equilibriums, Chemical Equilibriums, and Solutions)
AB The ability to distinguish base neutralization from acid displacement in
mixts. of bases and salts of widely varying pKa and pKb is studied by
chronopotentiometric titration with 0.3N HCl. The solns. studied included 20
mixts. of 0.075N NaOH with a 0.075N Na salt of the monobasic pyruvic,
sulfanilic, mandelic, formic, barbituric, acrylic, or **boric**
acids, or HCl, Cl2CHCO2H, ClCH2CO2H, AcOH, dinitrophenol, o- or
m-nitrophenol, phenol, m- or p-cresol, dimethylglyoxime, saccharin, or
sucrose; 20 mixts. of 0.075N NaOH with a 0.075N Na salt of the dibasic
citraconic, selenous, telluric, maleic, fumaric, chromic, salicylic,
tartaric, malonic, phthalic, itaconic, glutaric, azelaic, succinic,
adipic, carbonic, or ascorbic acids, or of H2S, (CO2H)2, or
mannitol; and 14 mixts. of 0.075N NaOAc with one of the following
bases at 0.075N concentration: NaOH, LiOH, Sr(OH)2, Ba(OH)2, piperidine, Me2NH,
Et2NH, Me2CHCH2NH2, HOCH2CH2NH2, morpholine, H2N.NH2, (HOCH2CH2)3N,
α-picoline, or PhNH2. In mixts. of bases of various strength with a
salt of a weak acid, neutralization and extraction can be distinguished in all
cases when 4 < pKa <9 and (pKa + pKb) <12. In the reaction of HCl with

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     mixts. of a strong base and salts of weak dibasic acids, the distinction
     between neutralization and separation of acid salts can be made for pKaI <2.5
     and pKaII = 4-9, or for free acids having values of pKaI and pKaII in the
     interval 4-9.
ST   acids bases interaction; bases acids interaction; chronoconductomery acids
     bases
IT   Ionization in liquids
        (determination of, in mixts. of bases and salts of weak acids,
        chronoductometric)
IT   78-81-9   17194-00-2   18480-07-4
     RL: PRP (Properties)
        (reaction of sodium acetate solns. of, with hydrochloric acid)
IT   79-43-6   81-07-2   95-45-4   113-24-6   114-21-6 141-53-7
     141-95-7   150-90-3   329-71-5   371-47-1   515-74-2   868-18-8
     4390-16-3   5363-69-9   7446-81-3   7486-38-6   7775-11-3   10102-18-8
     10102-20-2   13521-83-0   13639-21-9 14890-53-0   15968-01-1
     17013-01-3   17265-13-3   21547-66-0   21547-69-3
     RL: PRP (Properties)
        (reaction of sodium hydroxide mixture of, with hydrochloric acid)
IT   127-09-3
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with hydrochloric acid in mixts. of bases and salts of
        weak acids)
IT   88-75-5   106-44-5   108-39-4   554-84-7
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with hydrochloric acid in sodium acetate)
IT   109-06-8   110-91-8   1310-65-2
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with hydrochloric acid in sodium acetate solution)
IT   7647-01-0, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (with bases and salts of weak acids, determination of, by chronoconductometric
        method)
IT   64-19-7, reactions   79-11-8, reactions   144-62-7, reactions   7783-06-4,
     reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (with hydrochloric acid)
IT   1310-73-2, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (with hydrochloric acid in mixts. of bases and salts of weak acids)
IT   108-95-2, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (with hydrochloric acid in sodium acetate)
IT   62-53-3, reactions   102-71-6, reactions   109-89-7, reactions   110-89-4,
     reactions   124-40-3, reactions   141-43-5, reactions   302-01-2,
     reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (with hydrochloric acid in sodium acetate solution)



=> b biosis
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 14 September 2005 (20050914/ED)

FILE RELOADED: 19 October 2003.

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L85  ANSWER 1 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN   2004:391707  BIOSIS
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DN   PREV200400393202
TI   Isolation of two populations of sperm cells from the pollen tube of
     tobacco.
AU   Qiu Yi-lan; Yang Yan-hong; Zhang Sai-Qun; Tian Hui-qiao [Reprint Author]
CS   Key Lab Minist Educ Cell Biol and Tumor Cell Engn, Xiamen Univ, Xiamen,
     361005, China
     hqtian@jingxian.xmu.edu.cn
SO   Acta Botanica Sinica, (June 2004) Vol. 46, No. 6, pp. 719-723. print.
     ISSN: 1672-6650 (ISSN print).
DT   Article
LA   English
ED   Entered STN: 6 Oct 2004
     Last Updated on STN: 6 Oct 2004
AB   Pollen of Nicotiana tabacum L. is bicellular type, a generative cell and a
     vegetative cell in a mature pollen grain.  To isolate sperm cells pollen
     tube should be induced in advance.  Using an in vivo-in vitro technique,
     the style was pollinated and kept in vivo growing for 37 h and then cut
     about 3.5-4.0 cm long to be cultured in a medium containing 15% (W/V)
     sucrose, 0.01% (W/V) boric acid, 0.01% (W/V) CaCl2,
     0.01% (W/V) KH2PO4, at pH 5.0.  A numerous pollen tubes grew out of the
     cut end of the style after being cultured for 3-5 h.  When the pollen
     tubes were transferred to a broken solution just containing 9%
     mannitol some tubes broke and released the tube content into the
     broken solution including two sperm cells.  Two sperm cells just released
     from the tube are connected with vegetative nucleus (VN) of pollen tube
     consisting of a male germ unit (MGU).  Two sperm cells of tobacco are
     dimorphism: one is big and the other small.  The small one (Svn) connects
     with vegetative nucleus and the big one only associates with the small
     one.  Two isomorphic sperm cells might be selective fusion with egg cell
     and central cell during in vivo fertilization (preferential
     fertilization).  When two associated sperm cells were transferred into a
     solution containing 0.01% cellulase, 0.008% pectinase and 9%
     mannitol, the association between two brother sperm cells
     disappeared, and both cells could be easily separated using a
     micromanipulator.  To probe the mechanism of preferential fertilization
     two sperm cells from one pollen tube have to be separated each other to
     find the differences at the molecular level.  Two sperm cells were
     respectively collected into two individual populations, each containing
     over thousand big sperm cells or small one, using a micromanipulator.  The
     two sperm populations will offer a possibility to find the differences
     between two sperm cells in genes and proteins by using molecular methods,
     which will help us to understand the mechanism of preferential
     fertilization and gametic recognition of higher plants, especially in the
     species with bicellular pollen.
CC   Cytology - Animal   02506
     Reproductive system - Physiology and biochemistry   16504
     Plant physiology - Reproduction   51512
IT   Major Concepts
        Reproduction
IT   Parts, Structures, & Systems of Organisms
        pollen tube: reproductive system; sperm cell: reproductive system
IT   Methods & Equipment
        micromanipulator: laboratory equipment
IT   Miscellaneous Descriptors
        preferential fertilization
ORGN Classifier
        Solanaceae   26775
     Super Taxa
        Dicotyledones; Angiospermae; Spermatophyta; Plantae
     Organism Name
        Nicotiana tabacum (species) [tobacco (common)]
     Taxa Notes
        Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants

L85  ANSWER 2 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN   2004:256424  BIOSIS
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DN PREV200400256492

TI Effects of **sodium tetraborate** and **boric acid** on nonisothermal **mannitol** crystallization in frozen solutions and freeze-dried solids.

AU Izutsu, Ken-ichi [Reprint Author]; Ocheda, Shemaine O.; Aoyagi, Nobuo; Kojima, Shigeo

CS National Institute of Health Sciences, Kamiyoga 1-18-1, Setagaya, Tokyo, 158-8501, Japan
izutsu@nihs.go.jp

SO International Journal of Pharmaceutics (Kidlington), (1 April 2004) Vol. 273, No. 1-2, pp. 85-93. print.
ISSN: 0378-5173 (ISSN print).

DT Article

LA English

ED Entered STN: 12 May 2004
Last Updated on STN: 12 May 2004

AB The purpose of the present study was to elucidate the effects of **sodium tetraborate** (**borax**) and **boric acid** on the crystallization of **mannitol** in frozen aqueous solutions and freeze-dried solids. Thermal analysis of frozen solutions showed that **sodium tetraborate** inhibits **mannitol** crystallization at **sodium tetraborate** **/mannitol** molar concentration ratios of approximately 0.05, which is much lower than the other co-solutes studied (**boric acid**, sucrose, sodium phosphate buffer). Inhibition of the **mannitol** crystallization in frozen solutions resulted in highly amorphous **mannitol** in the freeze-dried solids. **Mannitol** remained in an amorphous state in some of the combination freeze-dried solids, even at elevated temperatures. Changes in the thermal transition temperatures (glass transition temperature of maximally freeze-concentrated solute (Tg') and glass transition temperature of freeze-dried solid (Tg)) suggested reduced **mannitol** molecular mobility with increases in the **sodium tetraborate** ratio. Fourier-transform infrared spectroscopy (FT-IR) analysis of the bovine serum albumin secondary structure showed apparent protein structure-stabilizing effects of the amorphous **mannitol** and **sodium tetraborate** combination **during** the freeze-drying process. The **mannitol** and **sodium tetraborate** combination also protected lactate dehydrogenase (LDH) from inactivation **during** freeze-drying. We conclude that the complex formation and the accompanying reduction in molecular mobility make **sodium tetraborate** an effective **mannitol** crystallization inhibitor in frozen solutions and freeze-dried solids.

CC Biochemistry studies - General 10060
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Carbohydrates 10068
Enzymes - General and comparative studies: coenzymes 10802
Pathology - Therapy 12512
Pharmacology - General 22002

IT Major Concepts
Biochemistry and Molecular Biophysics; Methods and Techniques; Pharmaceuticals (Pharmacology)

IT Chemicals & Biochemicals
boric acid; bovine serum albumin: secondary structure; lactate dehydrogenase [EC 1.1.1.27]; **mannitol**: amorphous state, nonisothermal crystallization; sodium phosphate buffer: co-solute; **sodium tetraborate** [**borax**]; sucrose: co-solute

IT Methods & Equipment
Fourier-transform infrared spectroscopy: laboratory techniques, spectrum analysis techniques; freeze-drying: applied and field techniques; thermal analysis: laboratory techniques

IT Miscellaneous Descriptors
complexation; freeze-dried solids; frozen solutions; glass transition temperature; molar concentration ratios; thermal transition temperatures

```
RN   10043-35-3 (boric acid)
     9001-60-9 (lactate dehydrogenase)
     9001-60-9 (EC 1.1.1.27)
       69-65-8Q (mannitol)
       87-78-5Q (mannitol)
       1330-43-4 (sodium tetraborate)
     1303-96-4 (sodium tetraborate)
       1330-43-4 (borax)
     1303-96-4 (borax)
     57-50-1 (sucrose)

L85  ANSWER 3 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN   2003:258824  BIOSIS
DN   PREV200300258824
TI   Boric acid-induced dose-dependent growth reduction in
     human prostate cancer cell lines.
AU   Barranco, Wade Thomas [Reprint Author]; Eckhert, Curtis D.
CS   Environmental Health Sciences, University of California, 650 Young Drive
     South, Los Angeles, CA, 90095-1772, USA
     wadebarranco@hotmail.com; ceckhert@ucla.edu
SO   FASEB Journal, (March 2003) Vol. 17, No. 4-5, pp. Abstract No. 434.5.
     http://www.fasebj.org/. e-file.
     Meeting Info.: FASEB Meeting on Experimental Biology: Translating the
     Genome. San Diego, CA, USA. April 11-15, 2003. FASEB.
     ISSN: 0892-6638 (ISSN print).
DT   Conference; (Meeting)
     Conference; Abstract; (Meeting Abstract)
LA   English
ED   Entered STN: 4 Jun 2003
     Last Updated on STN: 4 Jun 2003
AB   B is associated with lower risk of human prostate cancer (EB01).  Our
     study objective was to characterize the response of human prostate cell
     (HPC) lines to boric acid (BA).  Cancer HPC lines were
     obtained from the UCLA Jonsson Cancer Center and cultured in RPMI 1640
     with FBS (10%), 20mM L-glutamine, and 100 IU/ml pen/strep.
     Normal HPC lines were acquired from ATCC and cultured in Keratinocyte-SFM
     supplemented with 50 mug/ml bovine pituitary extract, 5 ng/ml EGF, and
     antibiotic/antimycotic mixture (91 UI/ml penicillin, 100 mug/ml
     streptomycin, 0.25 mug/ml fungizone).  Cancer HPC lines (LNCaP, DU145, &
     PC-3) and normal HPC lines (RWPE-1 & PWR-1E) were grown in 0, 100, 250,
     500, and 1000 muM BA.  BA depleted media was prepared by treatment with
     Amberlite IRA-743 and 99.9% ultrapure BA was used for supplementation.
     Incubation at each dose was replicated six times for eight days.  Plates
     were trypsinized and live cells counted in the presence of trypan blue
     using a hemocytometer.  Dose-dependent BA growth reduction occurred in all
     cancer HPC lines with low dose inhibitory concentrations of 100 muM for
     DU-145 and 500 muM for LNCaP and PC-3.  Significant growth reduction
     occurred only at 500 and 1000 muM BA respectively in normal HPC lines
     RWPE-1 and PWR-1E.  These results demonstrate that BA preferentially
     retards the growth of cancer HPC lines, and does so in a dose-dependent
     manner.  Funded in part by the UCLA Center for Environmental Genomics.
CC   General biology - Symposia, transactions and proceedings   00520
     Cytology - General   02502
     Cytology - Human   02508
     Urinary system - Physiology and biochemistry   15504
     Urinary system - Pathology   15506
     Reproductive system - Pathology   16506
     Neoplasms - Pathology, clinical aspects and systemic effects   24004
IT   Major Concepts
        Cell Biology; Tumor Biology; Urinary System (Chemical
        Coordination and Homeostasis)
IT   Diseases
        prostate cancer: neoplastic disease, reproductive system disease/male,
        urologic disease
        Prostatic Neoplasms (MeSH)
IT   Chemicals & Biochemicals
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        boric acid
ORGN Classifier
        Hominidae   86215
     Super Taxa
        Primates; Mammalia; Vertebrata; Chordata; Animalia
     Organism Name
        DU-145 cell line (cell line): human prostate cancer cells
        LNCaP cell line (cell line): human prostate cancer cells
        PC-3 cell line (cell line): human prostate cancer cells
        PWR-1E cell line (cell line): human prostate cells
        RWPE-1 cell line (cell line): human prostate cells
     Taxa Notes
        Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN   10043-35-3 (boric acid)

L85  ANSWER 4 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN   2003:25611  BIOSIS
DN   PREV200300025611
TI   DNA separation by microchip electrophoresis using low-viscosity
     hydroxypropylmethylcellulose-50 solutions enhanced by polyhydroxy
     compounds.
AU   Xu, Feng [Reprint Author]; Jabasini, Mohammad; Baba, Yoshinobu
CS   Department of Medicinal Chemistry, Faculty of Pharmaceutical Sciences,
     University of Tokushima, Shomachi, Tokushima, 770-8505, Japan
     fengxu64@hotmail.com
SO   Electrophoresis, (October 2002) Vol. 23, No. 20, pp. 3608-3614. print.
     ISSN: 0173-0835 (ISSN print).
DT   Article
LA   English
ED   Entered STN: 1 Jan 2003
     Last Updated on STN: 1 Jan 2003
AB   Low-viscosity polymer solutions have potential for double-stranded (ds)
     DNA separations in micrototal analysis systems (mu-TAS).  In this paper,
     we report dilute, low-viscosity hydroxypropylmethylcellulose-50 (HPMC-50,
     11.5 kDa) solutions containing polyhydroxy additives as separation media.
     Predominant operational variables, such as applied electric field
     strength, fluorescent intercalator (YOPro-1) concentration, polymer
     concentration, and additive concentration, are thoroughly investigated.
     Fast (within 170 s) and excellent separation of DNA restriction fragments
     ranging in size from 72 to 1353 base pairs (bp) is achieved in a 30 mm
     length channel of polymethylmethacrylate (PMMA) microchips at an electric
     field strength of 300 V/cm, by introducing 8% mannitol, 8%
     glucose or 10% glycerol additives into a 2% HPMC-50/1XTris-borate-EDTA
     (TBE) solution.  The low-viscosity (40 cP) matrix formulation provides
     both coating of the microchannels and separation of DNA in one step.  The
     performance in the solution surpasses that in highly concentrated HPMC-50
     solution.  In addition, separation using 1XTris-EDTA buffer in the 2%
     HPMC-50 matrix containing polyhydroxy additives also exhibits a notably
     increased performance.  This is presumably due to formation of
     hydrogen-bonding interactions of polyhydroxy additives with HPMC-50 matrix
     and DNA so as to increase the coupling interactions between matrix and DNA
     molecules during electrophoresis.  The result reflects that
     boric acid is not a prerequisite in polyhydroxy-enhanced
     HPMC-50 solution for separation.
CC   Genetics - General   03502
     Biochemistry studies - Nucleic acids, purines and pyrimidines   10062
     Biochemistry studies - Carbohydrates   10068
IT   Major Concepts
        Equipment Apparatus Devices and Instrumentation; Methods and
        Techniques; Molecular Genetics (Biochemistry and Molecular Biophysics)
IT   Chemicals & Biochemicals
        DNA fragments; glucose; glycerol additives;
        hydroxypropylmethylcellulose-50: low-viscosity solutions;
        mannitol; polyhydroxy additives; polyhydroxy compounds;
        polymethylmethacrylate
IT   Methods & Equipment
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          microchip electrophoresis: electrophoretic techniques, laboratory
          techniques; micrototal analysis systems: laboratory equipment
IT     Miscellaneous Descriptors
          DNA separation; predominant operational variables
RN     50-99-7Q (glucose)
       58367-01-4Q (glucose)
         69-65-8Q (mannitol)
         87-78-5Q (mannitol)
       9011-14-7 (polymethylmethacrylate)

L85  ANSWER 5 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN     1999:200096  BIOSIS
DN     PREV199900200096
TI     Considerations in the determination of boron at low concentrations.
AU     Downing, R. Gregory [Reprint author]; Strong, Philip L.; Hovanec, B.
       Michael; Northington, Jack
CS     R. G. D. Research, Inc., Niskayuna, NY, 12309, USA
SO     Biological Trace Element Research, (Winter, 1998) Vol. 66, No. 1-3, pp.
       3-22. print.
       CODEN: BTERDG. ISSN: 0163-4984.
DT     Article
       General Review; (Literature Review)
LA     English
ED     Entered STN: 25 May 1999
       Last Updated on STN: 25 May 1999
AB     Experimental evidence now supports the nutritional essentiality of boron
       (B) in some biological systems, and accordingly, the need for reliable
       analytical B data is increasing.  However, the accurate determination of B
       in biological materials is a formidable challenge at low concentrations
       (<1 mg B/kg).  Recent studies still show significant analytical
       discrepancies in the analysis of animal tissues and fluids, despite the
       development of instrumental techniques such as TIMS, ICP-MS, ICP-ES, ICAP,
       SIMS, NA-MS, PGAA, NRA, and so forth, which have demonstrated detection
       limits approaching or exceeding (muB/kg concentrations.  Since
       boric acid is both volatile and ubiquitous in nature,
       the chemical and physical pathways for B contamination and its loss are
       manifold, especially during sample preparation.  An
       added obstacle is the inadequacy of biological reference materials
       certified for B below mg B/kg.  With an emphasis toward sample preparation
       and ICP-MS analysis, examples are provided in this article to help the
       analyst avoid common problems associated with the analysis of B from
       biological sources.  Topics that are discussed include contamination from
       Teflon vessels during microwave digestion, losses owing to
       freeze-drying, B isotopic variations, standards preparation, reagent
       backgrounds, and instrumental interferences.
CC     Nutrition - Minerals   13206
       Biochemistry studies - Minerals   10069
IT     Major Concepts
          Nutrition
IT     Chemicals & Biochemicals
          boron; Teflon
ORGN Classifier
          Animalia   33000
       Super Taxa
          Animalia
       Organism Name
          animal
       Taxa Notes
          Animals
RN     7440-42-8 (boron)
       9002-84-0 (Teflon)

L85  ANSWER 6 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN     1992:332654  BIOSIS
DN     PREV199294034495; BA94:34495
TI     MODIFICATION IN THE AUTOMATED TECHNIQUES FOR THE ANALYSIS OF SOIL
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     PHOSPHORUS II.
AU   SARIR M S [Reprint author]; PULFORD'S I D; FLOWER T H
CS   DEP SOIL SCI, NWFP AGRIC UNIV PESHAWAR, PAKISTAN
SO   Sarhad Journal of Agriculture, (1992) Vol. 8, No. 1, pp. 113-118.
     ISSN: 1016-4383.
DT   Article
FS   BA
LA   ENGLISH
ED   Entered STN: 11 Jul 1992
     Last Updated on STN: 10 Sep 1992
AB   Automated measurement of phosphorus in sodium bicarbonate and ammonium
     fluoride extracts were investigated and some modifications were made.  In
     the case of sodium bicarbonate extractable phosphorus, treatment with 4 M
     sulfuric acid at 60° C gave a neutral, carbon dioxide-free sample
     using the manifold developed during the present study.
     In case of ammonium fluoride extractable phosphorus, 4% boric
     acid can be used effectively to eliminate fluoride interference.
CC   Biochemistry methods - Minerals   10059
     Biochemistry studies - General   10060
     Biochemistry studies - Minerals   10069
     Soil science - General and methods   52801
     Soil science - Physics and chemistry   52805
     Soil science - Fertility and applied studies   52807
IT   Major Concepts
        Biochemistry and Molecular Biophysics; Soil Science
IT   Miscellaneous Descriptors
        SODIUM BICARBONATE AMMONIUM FLUORIDE BORIC ACID
        FLUORIDE INTERFERENCE ANALYTICAL METHOD
RN   16427-81-9 (PHOSPHORUS II)
     144-55-8 (SODIUM BICARBONATE)
     12125-01-8 (AMMONIUM FLUORIDE)
       10043-35-3 (BORIC ACID)
     16984-48-8 (FLUORIDE)
     51134-36-2Q (PHOSPHORUS II)

L85  ANSWER 7 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN   1985:324794  BIOSIS
DN   PREV198579104790; BA79:104790
TI   STORAGE OF CASSAVA POLLEN MANIHOT-ESCULENTA BY LYOPHILIZATION
     AND VARIOUS HUMIDITY AND TEMPERATURE CONDITIONS.
AU   ORREGO-A J L [Reprint author]; HERSHEY C H
CS   UNIV NAC COLOMBIA, PALMIRA
SO   Acta Agronomica (Palmira), (1984) Vol. 34, No. 1, pp. 21-25.
     ISSN: 0120-2812.
DT   Article
FS   BA
LA   SPANISH
AB   Trials were carried out on in vitro germination of pollen of cassava MBRA
     20 and MCOL 1413.  The media included sucrose concentrations from 0-70%,
     with addition of micro-elements (150 ppm H3BO3 + 450 ppm
     Ca(NO3)2 + 150 ppm MgSO4 + 150 ppm KNO3).  No germination was observed in
     any of the media utilized.  Conservation of pollen was attempted by
     various treatments, including no drying (check), drying over silica gel 24
     and 48 h, freeze-dried 4 and 8 h, and later stor[t]ed at 23.5°,
     8° and -12° C during 2 and 4 wk.  For all
     treatments in which seed was produced after pollen storage, none of the
     seed was viable.  The method of pollen staining by 1% acetocarmine as a
     test of pollen viability was effective for fresh pollen, but not for
     stored pollen.
CC   General biology - Conservation and resource management   00512
     Biochemistry studies - Carbohydrates   10068
     Biochemistry studies - Minerals   10069
     External effects - Temperature as a primary variable - cold   10616
     Temperature - Cryobiology   23004
     Tissue culture, apparatus, methods and media   32500
     Palynology -   50100
     Plant physiology - Temperature   51503
     Plant physiology - Growth, differentiation   51510
     Plant physiology - Reproduction   51512
     Plant physiology - Apparatus and methods   51524
     Horticulture - Tropical, subtropical fruits and plantation crops   53004
IT   Major Concepts
        Botany; Development; Horticulture (Agriculture); Methods and
        Techniques; Physiology; Reproduction
IT   Miscellaneous Descriptors
        GERMINATION MEDIA SUCROSE MINERALS SEED VIABILITY CRYOPRESERVATION
ORGN Classifier
        Euphorbiaceae   26055
     Super Taxa
        Dicotyledones; Angiospermae; Spermatophyta; Plantae
     Taxa Notes
        Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants
RN   57-50-1 (SUCROSE)

L85  ANSWER 8 OF 8  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AN   1982:149760  BIOSIS
DN   PREV198273009744; BA73:9744
TI   EVALUATION OF THE AMMONIA CONTENT IN CHEESE.
AU   BEHRINGER G [Reprint author]; KLOSTERMEYER H
CS   INST CHEM PHYS SUEDDEUTSCHEN VERSUCHS FORSCHUNGSANST MILCHWIRTSCHAFT, TU
     MUENCHEN WEILHENSTEPHAN, VOETTINGER STR 45, D-8050 FREISING-WEIHENSTEPHAN,
     W GER
SO   Zeitschrift fuer Lebensmittel-Untersuchung und -Forschung, (1981) Vol.
     172, No. 5, pp. 362-364.
     CODEN: ZLUFAR. ISSN: 0044-3026.
DT   Article
FS   BA
LA   GERMAN
AB   The ammonia content in cheese can be determined as follows: addition of
     water and Carrez-reagent to the sample for deproteination, removal of
     ammonia by distilling off at pH 7.6, solution in boric
     acid and photometric determination after reaction with
     phenolate/hypochlorite.  With this procedure no significant amounts of
     ammonia are newly formed during distillation by protein
     hydrolysis; no free glutamine could be enzymatically detected in
     cheese.
CC   Methods - Laboratory methods   01004
     Radiation biology - Radiation and isotope techniques   06504
     Comparative biochemistry   10010
     Biochemistry methods - General   10050
     Biochemistry methods - Proteins, peptides and amino acids   10054
     Biochemistry studies - General   10060
     Biochemistry studies - Proteins, peptides and amino acids   10064
     Biophysics - Methods and techniques   10504
     Biophysics - Molecular properties and macromolecules   10506
     Enzymes - Methods   10804
     Food technology - Malts, brews and other fermentation products   13512
     Food technology - Dairy products   13518
     Food technology - Evaluations of physical and chemical properties   13530
     Food technology - Preparation, processing and storage   13532
IT   Major Concepts
        Biochemistry and Molecular Biophysics; Foods
IT   Miscellaneous Descriptors
        ENZYMATIC DETECTION FREE GLUTAMINE PROTEIN HYDROLYSIS
        PHOTOMETRIC DETERMINATION
RN   7664-41-7 (AMMONIA)
       56-85-9Q (GLUTAMINE)
       6899-04-3Q (GLUTAMINE)


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L93  ANSWER 1 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN
AN   2005197300  EMBASE
TI   Determination of glycine, glutamine, glutamate, and
     γ-aminobutyric acid in cerebrospinal fluids by capillary
     electrophoresis with light-emitting diode-induced fluorescence detection.
AU   Lu M.-J.; Chiu T.-C.; Chang P.-L.; Ho H.-T.; Chang H.-T.
CS   H.-T. Chang, Department of Chemistry, National Taiwan University,
     Roosevelt Road, Taipei 106, Taiwan,Province of China. changht@ntu.edu.tw
SO   Analytica Chimica Acta, (4 May 2005) Vol. 538, No. 1-2, pp. 143-150.
     Refs: 34
     ISSN: 0003-2670  CODEN: ACACAM
CY   Netherlands
DT   Journal; Article
FS   029     Clinical Biochemistry
LA   English
SL   English
ED   Entered STN: 20050526
     Last Updated on STN: 20050526
AB   In this article, we present a simple and cost-effective method for the
     determination of amino acids in cerebrospinal fluids (CSF) by using
     capillary electrophoresis-light-emitting diode-induced fluorescence
     detection.  When using a deactivated capillary filled with 0.6%
     poly(ethylene oxide) (PEO, M (r) 6.0 x 10(5)) prepared in 10 mM
     tetraborate (pH 9.3), we have achieved the limits of detection (S/N = 3)
     in the range of 10-30 nM for naphthalene-2,3-dicarboxaldehyde (NDA)
     derivatized amino acids (detected in the anodic side) in the absence of
     electroosmotic flow (EOF).  In order to further improve sensitivity,
     stacking and separation of CSF samples in the presence of EOF has been
     applied.  When high voltage is applied, the analytes migrating against EOF
     slow down and are stacked at the boundary between 2.0% PEO (M (r) 8.0 x
     10(6)) prepared in 10 mM tetraborate (pH 9.3) and sample zone.  The
     stacking approach provides the LODs at the nM level for the analytes
     (detected in the cathodic side) when injecting at 30 cm height for 150 s.
     The two proposed methods provide comparable results for the determinations
     of glycine (Gly), glutamine (Gln), and glutamate (Glu) in CSF
     samples from patients suffered from inflammation, epilepsy, and jaundice
     without sample preparation, but the stacking method is more sensitive and
     allows for the determination of γ-aminobutyric acid (GABA).
     .COPYRGT. 2005 Elsevier B.V.  All rights reserved.
CT   Medical Descriptors:
     *capillary electrophoresis
     *cerebrospinal fluid analysis
     amino acid analysis
     light emitting diode
     fluorescence
     alkalinity
     electroosmosis
     accuracy
     electric potential
     inflammation
     epilepsy
     jaundice
     human
     clinical article
```

child
article
priority journal
Drug Descriptors:
*glycine
*glutamic acid
***glutamine**
*4 aminobutyric acid
macrogol
boric acid
2,3 naphthalenedicarboxaldehyde

RN (glycine) 56-40-6, 6000-43-7, 6000-44-8; (glutamic acid) 11070-68-1, 138-15-8, 56-86-0, 6899-05-4; **(glutamine) 56-85-9, 6899-04-3**; (4 aminobutyric acid) 28805-76-7, 56-12-2; (macrogol) 25322-68-3; **(boric acid) 10043-35-3, 11113-50-1**, 11129-12-7, 14213-97-9

L93 ANSWER 2 OF 12 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2005143405 EMBASE
TI Amino acid analysis by micellar electrokinetic chromatography with laser-induced fluorescence detection: Application to nanolitre-volume biological samples from Arabidopsis thaliana and Myzus persicae.
AU Zhu X.; Nicholas Shaw P.; Pritchard J.; Newbury J.; Hunt E.J.; Barrett D.A.
CS Dr. D.A. Barrett, Centre for Analytical Bioscience, School of Pharmacy, University of Nottingham, Nottingham NG7 2RD, United Kingdom. david.barrett@nottingham.ac.uk
SO Electrophoresis, (2005) Vol. 26, No. 4-5, pp. 911-919.
Refs: 40
ISSN: 0173-0835 CODEN: ELCTDN
CY Germany
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20050414
Last Updated on STN: 20050414

AB Amino acids were derivatised with 4-fluoro-7-nitrobenzo-2,1,3-oxadiazol (NBD-F), separated by micellar electrokinetic chromatography (MEKC), and detected by argonion (488 nm) laser-induced fluorescence. The optimised MEKC background electrolyte conditions were: 40 mM sodium cholate, 5 mM β-cyclodextrin in 20 mM aqueous borate buffer, pH 9.1, with 7% v/v acetonitrile. Using these conditions, 19 amino acids were separated within 17 min. The limits of detection were in the range of 7.6-42.2 pmol/mL and limits of quantitation from 0.05-0.14 nmol/mL. The method was systematically validated for injection volume error, migration time variation, calibration linearity, accuracy, precision, and recovery. Nanolitre volume samples of phloem sap of individual sieve element cells from the plant Arabidopsis thaliana and honeydew from the aphid Myzus persicae were directly analysed with this method. Quantitative amino acid concentrations in these two biological matrices were profiled for the first time. This method is particularly important because it allows the complete profile of the amino acids obtained from individual phloem elements, allowing cell to cell and plant to plant variation to be quantified, which to date has not been possible with Arabidopsis thaliana. .COPYRGT. 2005 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

CT Medical Descriptors:
*argon laser
*amino acid analysis
*fluorescence analysis
*micellar electrokinetic chromatography
Arabidopsis
derivatization
separation technique
process optimization

aqueous solution
quantitative analysis
validation process
analytical error
migration
time
calibration
linear system
accuracy
phloem
volumetry
sieve tube
nonhuman
controlled study
article
Drug Descriptors:
*amino acid: EC, endogenous compound
oxadiazole derivative
4 fluoro 7 nitrobenzo 2,1,3 oxadiazol
electrolyte
cholic acid
beta cyclodextrin
boric acid
acetonitrile
arginine: EC, endogenous compound
tyrosine: EC, endogenous compound
lysine: EC, endogenous compound
ornithine: EC, endogenous compound
phenylalanine: EC, endogenous compound
leucine: EC, endogenous compound
isoleucine: EC, endogenous compound
histidine: EC, endogenous compound
valine: EC, endogenous compound
methionine: EC, endogenous compound
glutamine: EC, endogenous compound
proline: EC, endogenous compound
threonine: EC, endogenous compound
alanine: EC, endogenous compound
serine: EC, endogenous compound
asparagine: EC, endogenous compound
glycine: EC, endogenous compound
glutamic acid: EC, endogenous compound
aspartic acid: EC, endogenous compound
unclassified drug

RN (amino acid) 65072-01-7; (cholic acid) 32500-01-9, 361-09-1, 81-25-4; (beta cyclodextrin) 7585-39-9; (**boric acid**) **10043-35-3**, **11113-50-1**, 11129-12-7, 14213-97-9; (acetonitrile) 75-05-8; (arginine) 1119-34-2, 15595-35-4, 7004-12-8, 74-79-3; (tyrosine) 16870-43-2, 55520-40-6, 60-18-4; (lysine) 56-87-1, 6899-06-5, 70-54-2; (ornithine) 70-26-8, 7006-33-9; (phenylalanine) 3617-44-5, 63-91-2; (leucine) 61-90-5, 7005-03-0; (isoleucine) 7004-09-3, 73-32-5; (histidine) 645-35-2, 7006-35-1, 71-00-1; (valine) 7004-03-7, 72-18-4; (methionine) 59-51-8, 63-68-3, 7005-18-7; (**glutamine**) **56-85-9**, **6899-04-3**; (proline) 147-85-3, 7005-20-1; (threonine) 36676-50-3, 72-19-5; (alanine) 56-41-7, 6898-94-8; (serine) 56-45-1, 6898-95-9; (asparagine) 70-47-3, 7006-34-0; (glycine) 56-40-6, 6000-43-7, 6000-44-8; (glutamic acid) 11070-68-1, 138-15-8, 56-86-0, 6899-05-4; (aspartic acid) 56-84-8, 6899-03-2

L93 ANSWER 3 OF 12 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2004119809 EMBASE
TI X-ray and NMR Characterization of Covalent Complexes of Trypsin, Borate, and Alcohols.
AU Transue T.R.; Krahn J.M.; Gabel S.A.; DeRose E.F.; London R.E.
CS R.E. London, Laboratory of Structural Biology, NIEHS, Box 12233, Research

Triangle Park, NC 27709, United States. london@niehs.nih.gov
SO Biochemistry, (16 Mar 2004) Vol. 43, No. 10, pp. 2829-2839.
Refs: 54
ISSN: 0006-2960 CODEN: BICHAW
CY United States
DT Journal; Article
FS 027 Biophysics, Bioengineering and Medical Instrumentation
029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 20040401
Last Updated on STN: 20040401

AB An understanding of the physiological and toxicological properties of borate and the utilization of boronic acids in drug development require a basic understanding of borate-enzyme chemistry. We report here the extension of our recent NMR studies indicating the formation of a ternary borate-alcohol-trypsin complex. Crystallographic and solution state NMR studies of porcine trypsin were performed in the presence of borate and either of three alcohols designed to bind to the S1 affinity subsite: 4-aminobutanol, guanidine-3-propanol, and 4-hydroxymethylbenzamidine. Quaternary complexes of trypsin, borate, S1-binding alcohol, and ethylene glycol (a cryoprotectant), as well as a ternary trypsin, borate, and ethylene glycol complex have been observed in the crystalline state. Borate forms ester bonds to Ser195, ethylene glycol (two bonds), and the S1-binding alcohol (if present). Spectra from (1)H and (11)B NMR studies confirm that these complexes also exist in solution and also provide evidence for the formation of ternary trypsin, borate, and S1-subsite alcohol complexes which are not observed in the crystals using our experimental protocols. Analysis of eight crystal structures indicates that formation of an active site borate complex is in all cases accompanied by a significant (.apprx.4%) increase in the b-axis dimension of the unit cell. Presumably, our inability to observe the ternary complexes in the crystalline state arises from the lower stability of these complexes and consequent inability to overcome the constraints imposed by the lattice contacts. A mechanism for the coupling of the lattice contacts with the active site that involves a conformational rearrangement of Gln192 is suggested. The structures presented here represent the first crystallographic demonstration of covalent binding of an enzyme by borate.

CT Medical Descriptors:
*X ray analysis
*nuclear magnetic resonance
*covalent bond
*complex formation
enzyme chemistry
crystallography
proton nuclear magnetic resonance
boron nuclear magnetic resonance
molecular stability
conformational transition
enzyme conformation
enzyme active site
article
priority journal
Drug Descriptors:
*trypsin
  ***boric acid**
*alcohol
butanol
4 aminobutanol
propanol
guanidine 3 propanol
benzamidine derivative
4 hydroxymethylbenzamidine
ethylene glycol
ester

```
     serine
       glutamine
     unclassified drug
RN   (trypsin) 9002-07-7; (boric acid) 10043-35-3
     , 11113-50-1, 11129-12-7, 14213-97-9; (alcohol) 64-17-5;
     (butanol) 35296-72-1, 71-36-3; (propanol) 62309-51-7, 71-23-8; (ethylene
     glycol) 107-21-1; (serine) 56-45-1, 6898-95-9; (glutamine)
     56-85-9, 6899-04-3

L93  ANSWER 4 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN
AN   2004116460  EMBASE
TI   Effects of sodium tetraborate and boric
     acid on nonisothermal mannitol crystallization in frozen
     solutions and freeze-dried solids.
AU   Izutsu K.-I.; Ocheda S.O.; Aoyagi N.; Kojima S.
CS   K.-I. Izutsu, Natl. Institute of Health Sciences, Kamiyoga 1-18-1,
     Setagaya, Tokyo 158-8501, Japan. izutsu@nihs.go.jp
SO   International Journal of Pharmaceutics, (1 Apr 2004) Vol. 273, No. 1-2,
     pp. 85-93.
     Refs: 32
     ISSN: 0378-5173  CODEN: IJPHDE
PUI  S 0378-5173(04)00009-2
CY   Netherlands
DT   Journal; Article
FS   037     Drug Literature Index
     039     Pharmacy
LA   English
SL   English
ED   Entered STN: 20040401
     Last Updated on STN: 20040401
AB   The purpose of the present study was to elucidate the effects of
     sodium tetraborate (borax) and boric
     acid on the crystallization of mannitol in frozen
     aqueous solutions and freeze-dried solids.  Thermal analysis of frozen
     solutions showed that sodium tetraborate inhibits
     mannitol crystallization at sodium tetraborate
     /mannitol molar concentration ratios of approximately 0.05,
     which is much lower than the other co-solutes studied (boric
     acid, sucrose, sodium phosphate buffer).  Inhibition of the
     mannitol crystallization in frozen solutions resulted in highly
     amorphous mannitol in the freeze-dried solids.  Mannitol
     remained in an amorphous state in some of the combination freeze-dried
     solids, even at elevated temperatures.  Changes in the thermal transition
     temperatures (glass transition temperature of maximally
     freeze-concentrated solute (T(g)') and glass transition temperature of
     freeze-dried solid (T(g))) suggested reduced mannitol molecular
     mobility with increases in the sodium tetraborate
     ratio.  Fourier-transform infrared spectroscopy (FT-IR) analysis of the
     bovine serum albumin secondary structure showed apparent protein
     structure-stabilizing effects of the amorphous mannitol and
     sodium tetraborate combination during the freeze-drying
     process.  The mannitol and sodium tetraborate
     combination also protected lactate dehydrogenase (LDH) from inactivation
     during freeze-drying.  We conclude that the complex formation and the
     accompanying reduction in molecular mobility make sodium
     tetraborate an effective mannitol crystallization
     inhibitor in frozen solutions and freeze-dried solids. .COPYRGT. 2004
     Elsevier B.V.  All rights reserved.
CT   Medical Descriptors:
     *crystallization
     *freeze drying
     *thermal analysis
     physical chemistry
     preformulation
     solute
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      solid state
      glass transition temperature
      infrared spectroscopy
      enzyme inactivation
      complex formation
      article
      priority journal
      Drug Descriptors:
      *borate sodium: AN, drug analysis
      *borate sodium: PR, pharmaceutics
        *boric acid: AN, drug analysis
        *boric acid: PR, pharmaceutics
        *mannitol: AN, drug analysis
        *mannitol: PR, pharmaceutics
      excipient: AN, drug analysis
      excipient: PR, pharmaceutics
      sucrose
      sodium chloride
      phosphate
      buffer
      bovine serum albumin
      lactate dehydrogenase
RN    (borate sodium) 12447-40-4, 1303-96-4, 1330-43-4,
      1333-73-9, 32446-62-1, 61028-24-8; (boric acid
      ) 10043-35-3, 11113-50-1, 11129-12-7, 14213-97-9; (
      mannitol) 69-65-8, 87-78-5; (sucrose)
      122880-25-5, 57-50-1; (sodium chloride) 7647-14-5; (phosphate) 14066-19-4,
      14265-44-2; (lactate dehydrogenase) 9001-60-9
CO    Aldrich (United States); Wako (Japan)

L93  ANSWER 5 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
      on STN
AN    2004096240    EMBASE
TI    Capillary electrophoresis with a diamine eof modifier as an approach for
      glutamine dipeptide containing formulations.
AU    Jaworska M.; Wilk M.; Szulinska Z.
CS    M. Jaworska, Dept. of Biochem./Biopharmaceuticals, National Institute of
      Public Health, 30/34 Chelmska Str., 00-725 Warsaw, Poland.
      m-jaworska@il.waw.pl
SO    Acta Poloniae Pharmaceutica - Drug Research, (2003) Vol. 60, No. 6, pp.
      425-433.
      Refs: 27
      ISSN: 0001-6837  CODEN: APPHAX
CY    Poland
DT    Journal; Article
FS    029     Clinical Biochemistry
      037     Drug Literature Index
LA    English
SL    English
ED    Entered STN: 20040311
      Last Updated on STN: 20040311
AB    Currently, glutamine is thought to be conditionally
      indispensable amino acid.  However, the use of glutamine in
      clinical practice encounters serious problems related to its limited
      solubility and instability in water solutions.  Therefore,
      glutamine-containing dipeptides, which have better solubility and
      stability in the solution, have been introduced into the medical practice.
      High concentration of L-alanyl-L-glutamine in the medicinal
      product and thermal sterilization during the manufacturing process are the
      reasons of many impurities formation - the products of deamidation,
      racemization, cyclization etc..  The purpose of the study was to develop a
      single step CE method that could be applied in the purity control of
      L-alanyl-L-glutamine containing parenteral infusions instead of
      three routinely used LC methods.  After systematic optimization separation
      conditions were selected: 100 mM borate buffer at pH 8.5 with 0.4 mM
      diaminopropane as EOF modifier.  The method developed allows the
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separation and determination of the main component and the related impurities. The results show that the method is suitable for quality control of **glutamine** dipeptide solutions offering some advantages over routinely used LC methods.

CT Medical Descriptors:
capillary electrophoresis
drug formulation
electroosmosis
flow kinetics
clinical practice
drug solubility
drug stability
thermal analysis
drug manufacture
drug impurity
deamination
racemization
cyclization
analytic method
drug purity
liquid chromatography
process optimization
separation technique
pH
quality control
intermethod comparison
drug structure
controlled study
article
Drug Descriptors:
***glutamine derivative: AN, drug analysis**
alanylglutamine: AN, drug analysis
diamine
water
boric acid
buffer
1,3 propanediamine
amino acid derivative: AN, drug analysis
dextro alanylglutamine: AN, drug analysis
cyclo(alanylglutaminyl): AN, drug analysis
pyroglutamylalanine: AN, drug analysis
alanylglutamic acid: AN, drug analysis
alanyl dextro glutamine: AN, drug analysis
cyclo(alanylglutamyl): AN, drug analysis
pyroglutamic acid: AN, drug analysis
unclassified drug

RN (alanylglutamine) 39537-23-0; (water) 7732-18-5; (**boric acid**) **10043-35-3**, **11113-50-1**, 11129-12-7, 14213-97-9; (1,3 propanediamine) 109-76-2; (alanylglutamic acid) 13187-90-1; (pyroglutamic acid) 16891-48-8, 28874-51-3, 98-79-3

L93 ANSWER 6 OF 12 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 2003133908 EMBASE
TI Determination of amino acid neurotransmitters in cerebral cortex of rats administered with baicalin prior to cerebral ischemia by capillary electrophoresis-laser-induced fluorescence detection.
AU Li H.; Wang H.; Chen J.-H.; Wang L.-H.; Zhang H.-S.; Fan Y.
CS H.-S. Zhang, College of Chemistry, Wuhan University, Wuhan 430072, China. hshzhang@whu.edu.cn
SO Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, (5 May 2003) Vol. 788, No. 1, pp. 93-101.
Refs: 28
ISSN: 1570-0232 CODEN: JCBAAI
CY Netherlands
DT Journal; Article

FS 008 Neurology and Neurosurgery
030 Pharmacology
037 Drug Literature Index
LA English
SL English
ED Entered STN: 20030410
Last Updated on STN: 20030410

AB An efficient, sensitive and rapid analysis of the amino acid neurotransmitters in the cerebral cortex of rats was developed by capillary electrophoresis with laser-induced fluorescence detection and fluorescein isothiocyanate (FITC) derivatization. This method was used to investigate the pharmacological effect of baicalin during cerebral ischemia. Different parameters which influenced derivatization and separation were optimized. The separation of amino acids was carried out in an uncoated fused-silica capillary (57 cmx75 μm I.D.) with a buffer of 15 mM borate at pH 9.2 and an applied voltage of 17.5 kV. The detection limits for six amino acids were in the range of 2.1x10(-11)-6.3x10(-10) M. The changes in the level of amino acid neurotransmitters in brain cortex of three experimental rat groups were studied by this capillary electrophoresis-laser-induced fluorescence detection method. The results show that cerebral ischemia can cause a significant elevation in the concentrations of Glu, Asp, GABA, and Gly in cerebral cortex. Baicalin administration can attenuate the elevations of Glu and Asp induced by cerebral ischemia. This research demonstrates that baicalin may act as a neuroprotectant during cerebral ischemia. .COPYRGT. 2003 Elsevier Science B.V. All rights reserved.

CT Medical Descriptors:
*brain ischemia
*capillary electrophoresis
fluorescence
derivatization
drug effect
separation technique
pH
electric potential
amino acid analysis
neuroprotection
nonhuman
male
animal model
controlled study
animal tissue
article
priority journal
Drug Descriptors:
*baicalin: PD, pharmacology
*amino acid receptor affecting agent
fluorescein isothiocyanate
silicon dioxide
buffer
  boric acid
  glutamine
aspartic acid
4 aminobutyric acid receptor
glycine

RN (baicalin) 21967-41-9; (fluorescein isothiocyanate) 25168-13-2, 27072-45-3, 3326-32-7; (silicon dioxide) 10279-57-9, 14464-46-1, 14808-60-7, 15468-32-3, 60676-86-0, 7631-86-9; **(boric acid) 10043-35-3, 11113-50-1**, 11129-12-7, 14213-97-9; **(glutamine) 56-85-9, 6899-04-3**; (aspartic acid) 56-84-8, 6899-03-2; (glycine) 56-40-6, 6000-43-7, 6000-44-8

CO Shanxi (China)

L93 ANSWER 7 OF 12 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

AN 2002037320 EMBASE

TI Rapid activation of protein tyrosine kinase and phospholipase C-γ2 and increase in cytosolic free calcium are required by Ehrlichia chaffeensis for internalization and growth in THP-1 cells.

AU Lin M.; Zhu M.X.; Rikihisa Y.

CS Y. Rikihisa, Department of Veterinary Biosciences, Ohio State University, 1925 Coffey Road, Columbus, OH 43210, United States. Rikihisa.1@osu.edu

SO Infection and Immunity, (2002) Vol. 70, No. 2, pp. 889-898.
Refs: 58
ISSN: 0019-9567 CODEN: INFIBR

CY United States

DT Journal; Article

FS 004 Microbiology

LA English

SL English

ED Entered STN: 20020207
Last Updated on STN: 20020207

AB Ehrlichia chaffeensis, a bacterium that cannot survive outside the eukaryotic cell, proliferates exclusively in human monocytes and macrophages. In this study, signaling events required for ehrlichial infection of human monocytic cell line THP-1 were characterized. Entry and proliferation of E. chaffeensis in THP-1 cells were significantly blocked by various inhibitors that can regulate calcium signaling, including 8-(diethylamino)octyl-3,4,5-trimethoxybenzoate and 2-aminoethoxydiphenyl borate (intracellular calcium mobilization inhibitors), verapamil and 1-(β-[3-(4-methoxyphenyl)propyl]-4-methoxyphenethyl)-1H-imidazole (SKF-96365) (calcium channel inhibitors), neomycin and 1-(6-([17β-3-methoxyestra-1,3,5(10)-trien-17-yl]amino)hexyl)- 1H-pyrrole-2,5-dione (U-73122) (phospholipase C [PLC] inhibitors), monodansylcadaverine (a transglutaminase [TGase] inhibitor), and genistein (a protein tyrosine kinase [PTK] inhibitor). Addition of E. chaffeensis resulted in rapid increases in the level of inositol 1,4,5-trisphosphate (IP(3)) and the level of cytosolic free calcium ([Ca(2+)(i)) in THP-1 cells, which were prevented by pretreatment of THP-1 cells with inhibitors of TGase, PTK, and PLC. E. chaffeensis induced rapid tyrosine phosphorylation of PLC-γ2, and the presence of a PLC-γ2 antisense oligonucleotide in THP-1 cells significantly blocked ehrlichial infection. Furthermore, tyrosine-phosphorylated proteins and PLC-γ2 were colocalized with ehrlichial inclusions, as determined by double-immunofluorescence labeling. The heat-sensitive component of viable E. chaffeensis cells was essential for these signaling events. E. chaffeensis, therefore, can recruit interacting signal-transducing molecules and induce the following signaling events required for the establishment of infection in host cells: protein cross-linking by TGase, tyrosine phosphorylation, PLC-γ2 activation, IP(3) production, and an increase in [Ca(2+)](i).

CT Medical Descriptors:
*Ehrlichia chaffeensis
*enzyme activation
*calcium cell level
*bacterial growth
*endocytosis
bacterial survival
cell proliferation
signal transduction
ehrlichiosis
calcium signaling
protein cross linking
protein phosphorylation
monocyte
macrophage
human
nonhuman
human cell
article
priority journal

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     Drug Descriptors:
     *protein tyrosine kinase: EC, endogenous compound
     *phospholipase C: EC, endogenous compound
     *calcium: EC, endogenous compound
     3,4,5 trimethoxybenzoic acid 8 (diethylamino)octyl ester
       boric acid
     verapamil
     1 [2 (4 methoxyphenyl) 2 [3 (4 methoxyphenyl)propoxy]ethyl] 1h imidazole
     neomycin
     1 [[6 (3 methoxyestra 1,3,5(10) trien 17beta yl)amino]hexyl] 1h pyrrole
     2,5 dione
     dansylcadaverine
     genistein
     inositol 1,4,5 trisphosphate: EC, endogenous compound
       protein glutamine gamma glutamyltransferase: EC, endogenous
     compound
     antisense oligonucleotide: EC, endogenous compound
RN   (protein tyrosine kinase) 80449-02-1; (phospholipase C) 9001-86-9;
     (calcium) 7440-70-2; (3,4,5 trimethoxybenzoic acid 8 (diethylamino)octyl
     ester) 57818-92-5; (boric acid) 10043-35-3,
     11113-50-1, 11129-12-7, 14213-97-9; (verapamil) 152-11-4, 52-53-9;
     (1 [2 (4 methoxyphenyl) 2 [3 (4 methoxyphenyl)propoxy]ethyl] 1h imidazole)
     130495-35-1; (neomycin) 11004-65-2, 1404-04-2, 1405-10-3, 8026-22-0; (1
     [[6 (3 methoxyestra 1,3,5(10) trien 17beta yl)amino]hexyl] 1h pyrrole 2,5
     dione) 112648-68-7; (dansylcadaverine) 10121-91-2; (genistein) 446-72-0;
     (inositol 1,4,5 trisphosphate) 85166-31-0, 88269-39-0; (protein
     glutamine gamma glutamyltransferase) 80146-85-6

L93  ANSWER 8 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN
AN   1998220509  EMBASE
TI   Classification of artificial tears: I: Composition and properties.
AU   Murube J.; Paterson A.; Murube E.
CS   J. Murube, Department of Ophthalmology, Hospital Ramon y Cajal, Madrid,
     Spain
SO   Advances in Experimental Medicine and Biology, (1998) Vol. 438, pp.
     693-704.
     Refs: 13
     ISSN: 0065-2598  CODEN: AEMBAP
CY   United States
DT   Journal; Conference Article
FS   012     Ophthalmology
     037     Drug Literature Index
     039     Pharmacy
LA   English
ED   Entered STN: 19980806
     Last Updated on STN: 19980806
CT   Medical Descriptors:
     *lacrimal fluid
     *dry eye: DT, drug therapy
     drug classification
     chemical composition
     drug mechanism
     physical chemistry
     osmotic pressure
     surface tension
     viscosity
     drug formulation
     evaporation
     drug mixture
     human
     topical drug administration
     conference paper
     priority journal
     Drug Descriptors:
     *artificial tear: AN, drug analysis
```

*artificial tear: DT, drug therapy
*artificial tear: PR, pharmaceutics
*monosaccharide: AN, drug analysis
*monosaccharide: PR, pharmaceutics
*disaccharide: AN, drug analysis
*disaccharide: PR, pharmaceutics
*polysaccharide: AN, drug analysis
*polysaccharide: PR, pharmaceutics
*eye drops: PR, pharmaceutics
glycerol: PR, pharmaceutics
sucrose: PR, pharmaceutics
glucose: PR, pharmaceutics
sorbitol: PR, pharmaceutics
mannitol: PR, pharmaceutics
carboxymethylcellulose: PR, pharmaceutics
hydroxypropylcellulose: PR, pharmaceutics
sodium chloride: PR, pharmaceutics
potassium chloride: PR, pharmaceutics
calcium chloride: PR, pharmaceutics
magnesium chloride: PR, pharmaceutics
zinc chloride: PR, pharmaceutics
bicarbonate: PR, pharmaceutics
sodium dihydrogen phosphate: PR, pharmaceutics
dipotassium hydrogen phosphate: PD, pharmacology
potassium dihydrogen phosphate: PR, pharmaceutics
sodium thiosulfate: PR, pharmaceutics
magnesium sulfate: PR, pharmaceutics
calcium carbonate: PR, pharmaceutics
borate sodium: PR, pharmaceutics
citrate sodium: PR, pharmaceutics
lactate sodium: PR, pharmaceutics
boric acid: PR, pharmaceutics
sodium hydroxide: PR, pharmaceutics
unindexed drug
lacril
aquasite
bion tears
dacriosol
dacrolux
dropstar tg
povidone
naturale free
hyalistil
ialurex
colircusi humectante
lacrimalfa
ipotonico
lacrisifi
lagrimas
larmabak
siccaprotect
liquifilm tears
phenylephrine
ocustil
relief
refresh
cilclar
unilarm
lephagel
vidisept n

RN (glycerol) 56-81-5; (sucrose) 122880-25-5, 57-50-1; (glucose) 50-99-7, 84778-64-3; (sorbitol) 26566-34-7, 50-70-4, 53469-19-5; **(mannitol) 69-65-8, 87-78-5**; (carboxymethylcellulose) 8050-38-2, 9000-11-7, 9004-32-4, 9050-04-8; (hydroxypropylcellulose) 9004-64-2; (sodium chloride) 7647-14-5; (potassium chloride) 7447-40-7; (calcium chloride) 10043-52-4; (magnesium chloride) 7786-30-3, 7791-18-6;

(zinc chloride) 7646-85-7; (bicarbonate) 144-55-8, 71-52-3; (sodium dihydrogen phosphate) 7558-80-7, 7632-05-5; (dipotassium hydrogen phosphate) 7758-11-4; (potassium dihydrogen phosphate) 7778-77-0; (sodium thiosulfate) 10102-17-7, 7772-98-7, 8052-33-3; (magnesium sulfate) 7487-88-9; (calcium carbonate) 13397-26-7, 13701-58-1, 14791-73-2, 471-34-1; (borate sodium) 12447-40-4, 1303-96-4, **1330-43-4**, **1333-73-9**, 32446-62-1, 61028-24-8; (citrate sodium) 18996-35-5, 994-36-5; (lactate sodium) 72-17-3; **(boric acid)** **10043-35-3**, **11113-50-1**, 11129-12-7, 14213-97-9; (sodium hydroxide) 1310-73-2; (povidone) 9003-39-8; (phenylephrine) 532-38-7, 59-42-7, 61-76-7

CN Lacrisert; Celluvisc; Cellufresh; Lacril; Aquasite; Bion tears; Dacriosol; Dacrolux; Dropstar tg; Dulcilarmes; Naturale free; Hyalistil; Ialurex; Colircusi humectante; Lacrimalfa; Ipotonico; Lacrisifi; Lagrimas; Larmabak; Siccaprotect; Liquifilm tears; Prefrin; Ocustil; Relief; Refresh; Cilclar; Unilarm; Lephagel; Vidisept n

L93 ANSWER 9 OF 12 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

AN 93276343 EMBASE
DN 1993276343
TI Borate ion-assisted stabilization of β-galactosidase from Aspergillus oryzae by polyhydroxy compounds in water-miscible organic solvents.
AU Shubhada S.; Sundaram P.V.
CS Centre for Protein Engineering, and Biomedical Research, Voluntary Health Services,Madras-600 113, India
SO Enzyme and Microbial Technology, (1993) Vol. 15, No. 10, pp. 881-886.
ISSN: 0141-0229 CODEN: EMTED2
CY United States
DT Journal; Article
FS 004 Microbiology
LA English
SL English
ED Entered STN: 931017
Last Updated on STN: 931017

AB The stability of β-galactosidase from Aspergillus oryzae in water-miscible organic solvents in different buffers at various pH values ranging from 4.6 to 8.0 was studied. The stability of the enzyme in all six organic solvents studied was dependent on pH and on the type of buffer ions present. At a given pH, destabilization by organic solvents was highest in **sodium borate** buffer. The destabilization of β-galactosidase by these solvents could be reversed by addition of sugars or polyhydroxy compounds exclusively in **sodium borate**, suggesting a role of borate ions in stabilization. A similar effect of addition of **mannitol** was observed on deactivation of β-galactosidase by N, N-dimethylformamide (DMF). Exclusively in **sodium borate**, at pH 8.0, the addition of **mannitol** (0.02 M) not only prevented the deactivation by DMF (8%, v/v) but increased the enzyme activity to the level at its optimum pH. Since β-galactosidase from Aspergillus oryzae is a glycoprotein, complexation of the borate ions to the carbohydrate part may result in change in protein conformation, which, without leading to denaturation or inactivation of the enzyme, may facilitate interaction of the organic solvents with the enzyme leading to its denaturation. Such a denaturation is probably prevented by addition of polyhydroxy compounds, which appear to compete favorably with the carbohydrate moiety of the protein in complexing with borate ions. This should result in the enzyme regaining its native conformation.

CT Medical Descriptors:
*protein stability
article
aspergillus oryzae
nonhuman
Drug Descriptors:
*beta galactosidase: EC, endogenous compound
***boric acid**

```
     *organic solvent
RN   (boric acid) 10043-35-3, 11113-50-1
     , 11129-12-7, 14213-97-9

L93  ANSWER 10 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN
AN   85085643  EMBASE
DN   1985085643
TI   Protein separation in pH gradients using free-flow electrophoretic
     apparatus. II. The pH gradients formed by the concentration gradient of
     boric acid in solutions of borax and
     mannitol.
AU   Shukun S.A.; Gavryushkin A.V.; Brezgunov V.N.; Zav'yalov V.P.
CS   All-Union Research Institute of Applied Microbiology, 142200 Serpukhov,
     Russia
SO   Electrophoresis, (1985) Vol. 6, No. 2, pp. 75-77.
     CODEN: ELCTDN
CY   Germany
DT   Journal
FS   029      Clinical Biochemistry
LA   English
ED   Entered STN: 911210
     Last Updated on STN: 911210
CT   Medical Descriptors:
     *protein analysis
     electrophoresis
     methodology
     nonhuman

L93  ANSWER 11 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN
AN   76172715  EMBASE
DN   1976172715
TI   [Acute intoxications induced by cosmetics].
     LES INTOXICATIONS AIGUES PAR LES COSMETIQUES.
AU   Larcan A.; Lambert H.; Laprevote Heully M.C.; Nida F.
CS   France
SO   European Journal of Toxicology and Environmental Hygiene, (1975) Vol. 8,
     No. 5, pp. 265-274.
     CODEN: EJTXAZ
DT   Journal
FS   038      Adverse Reactions Titles
     037      Drug Literature Index
     030      Pharmacology
     032      Psychiatry
     013      Dermatology and Venereology
     017      Public Health, Social Medicine and Epidemiology
     049      Forensic Science Abstracts
LA   French
AB   Intoxications due to cosmetics are of various types, but certain
     substances may be particularly harmful, especially when the constituents
     include acetone, boric acid and borates, ethyl
     alcohol, bromates, formol, methyl alcohol, propylene glycol, thallium,
     thioglycolate.  Every cosmetic substance may induce accidental
     intoxications.  Most often, fluid cosmetics are absorbed either by
     children or by feeble minded subjects.  In all intoxication, one must take
     account of the age and weight of the patient, of the quantity absorbed, of
     the toxicity and of the constituents of the substance.
CT   Medical Descriptors:
     *adverse drug reaction
     *child
     *drug intoxication
     *forensic toxicology
     *intoxication
     *methylal
     *drug therapy
     *stomach lavage
     oral drug administration
     therapy
     Drug Descriptors:
     *acetone
       *boric acid
     *bromate
     *cosmetic
     *alcohol
     *formaldehyde
       *glutamine
     *methanol
     *propylene glycol
     *thallium
RN   (acetone) 67-64-1; (boric acid) 10043-35-3,
     11113-50-1, 11129-12-7, 14213-97-9; (bromate) 15541-45-4;
     (alcohol) 64-17-5; (formaldehyde) 50-00-0; (glutamine)
     56-85-9, 6899-04-3; (methanol) 67-56-1; (propylene
     glycol) 57-55-6; (thallium) 22537-56-0, 7440-28-0

L93  ANSWER 12 OF 12  EMBASE  COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN
AN   74140590  EMBASE
DN   1974140590
TI   [Observations on preservation methods for guinea pig alexin].
     DONNEES COMPARATIVES SUR CERTAINES METHODES DE CONSERVATION DE L'ALEXINE
     DE COBAYE.
AU   Olinici N.; Filotti A.; Lescinschi S.; et al.
CS   Romania
SO   Archives Roumaines de Pathologie Experimentale et de Microbiologie, (1973)
     Vol. 32, No. 3, pp. 517.
     CODEN: APEMAR
DT   Journal
FS   037     Drug Literature Index
     030     Pharmacology
LA   French
CT   Medical Descriptors:
     *1,3 diaminoguanidine derivative
     *preservation
     guinea pig
     in vitro study
     theoretical study
     methodology
     Drug Descriptors:
     *arabinose
     *borate sodium
       *boric acid
     *complement
     *fucose
     *galactitol
     *galactose
     *glucose
     *inositol
     *lactose
     *maltose
       *mannitol
     *rhamnose
     *carbohydrate
     *salicin
     *sodium azide
     *sodium chloride
     *sorbitol
     *sucrose
     *trehalose
     *xylose
RN   (arabinose) 147-81-9; (borate sodium) 12447-40-4, 1303-96-4,
     1330-43-4, 1333-73-9, 32446-62-1, 61028-24-8; (
     boric acid) 10043-35-3, 11113-50-1,
     11129-12-7, 14213-97-9; (complement) 9007-36-7; (fucose) 3615-37-0,
     3713-31-3; (galactitol) 608-66-2; (galactose) 26566-61-0, 50855-33-9,
     59-23-4; (glucose) 50-99-7, 84778-64-3; (inositol) 55608-27-0, 6917-35-7,
     87-89-8; (lactose) 10039-26-6, 16984-38-6, 63-42-3, 64044-51-5; (maltose)
     16984-36-4, 69-79-4; (mannitol) 69-65-8,
     87-78-5; (rhamnose) 10485-94-6, 3615-41-6; (salicin) 138-52-3;
     (sodium azide) 26628-22-8; (sodium chloride) 7647-14-5; (sorbitol)
     26566-34-7, 50-70-4, 53469-19-5; (sucrose) 122880-25-5, 57-50-1;
     (trehalose) 99-20-7; (xylose) 25990-60-7, 58-86-6


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 MeSH 2005 vocabulary.

 This file contains CAS Registry Numbers for easy and accurate
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L102 ANSWER 1 OF 19     MEDLINE on STN
AN   2004565993     MEDLINE
DN   PubMed ID: 15537291
TI   Enzymatic determination of urea in milk by sequential injection with
     spectrophotometric and conductometric detection.
AU   Lima M J Reis; Fernandes Silvia M V; Rangel Antonio O S S
CS   Escola Superior de Biotecnologia, Universidade Catolica Portuguesa, R. Dr.
     Antonio Bernardino de Almeida, 4200-072 Porto, Portugal.
SO   Journal of agricultural and food chemistry, (2004 Nov 17) 52 (23) 6887-90.
     Journal code: 0374755. ISSN: 0021-8561.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200412
ED   Entered STN: 20041113
     Last Updated on STN: 20041221
     Entered Medline: 20041220
AB   In this work, an analytical system based on the coupling of gas diffusion
     separation and sequential injection analysis for urea determination in
     milk is presented.  A versatile manifold that could
     simultaneously be used for either spectrophotometric or conductometric
     detection was constructed.  The sample and urease solution are
     sequentially aspirated into the holding coil and sent to a thermoreactor,
     where urea is enzymatically hydrolyzed by urease and converted into
     ammonium.  This stream merges an alkaline solution at a confluence point
     where ammonia is formed.  Ammonia diffuses through a hydrophobic membrane
     and modifies the bromothymol blue indicator color, when spectrophotometric
     detection is used, or changes the conductance of a boric
```

acid solution acceptor stream, when conductometric detection is used.This methodology was applied to the determination of urea in 18 milk samples and the results were statistically comparable with those furnished by the enzymatic recommended procedure. The detection limits were 2.6 x 10(-4) and 2.8 x 10(-5) mol L(-1) for conductometric and spectrophotometric detection, respectively. Repeatability (relative standard deviation, RSD) was better than 3.7% and 2.6% for conductometric and spectrophotometric detection, respectively.

CT Animals
*Chemistry, Analytical: MT, methods
Diffusion
Electric Conductivity
*Milk: CH, chemistry
Research Support, Non-U.S. Gov't
Spectrophotometry
*Urea: AN, analysis
Urease
RN 57-13-6 (Urea)
CN EC 3.5.1.5 (Urease)

L102 ANSWER 2 OF 19 MEDLINE on STN
AN 2004119785 MEDLINE
DN PubMed ID: 15010133
TI Effects of **sodium tetraborate** and **boric acid** on nonisothermal **mannitol** crystallization in frozen solutions and freeze-dried solids.
AU Izutsu Ken-Ichi; Ocheda Shemaine O; Aoyagi Nobuo; Kojima Shigeo
CS National Institute of Health Sciences, Kamiyoga 1-18-1, Setagaya, Tokyo 158-8501, Japan.. izutsu@nihs.go.jp
SO International journal of pharmaceutics, (2004 Apr 1) 273 (1-2) 85-93. Journal code: 7804127. ISSN: 0378-5173.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200408
ED Entered STN: 20040311
Last Updated on STN: 20040804
Entered Medline: 20040803

AB The purpose of the present study was to elucidate the effects of **sodium tetraborate** (**borax**) and **boric acid** on the crystallization of **mannitol** in frozen aqueous solutions and freeze-dried solids. Thermal analysis of frozen solutions showed that **sodium tetraborate** inhibits **mannitol** crystallization at **sodium tetraborate /mannitol** molar concentration ratios of approximately 0.05, which is much lower than the other co-solutes studied (**boric acid**, sucrose, sodium phosphate buffer). Inhibition of the **mannitol** crystallization in frozen solutions resulted in highly amorphous **mannitol** in the freeze-dried solids. **Mannitol** remained in an amorphous state in some of the combination freeze-dried solids, even at elevated temperatures. Changes in the thermal transition temperatures (glass transition temperature of maximally freeze-concentrated solute (T'g) and glass transition temperature of freeze-dried solid (Tg)) suggested reduced **mannitol** molecular mobility with increases in the **sodium tetraborate** ratio. Fourier-transform infrared spectroscopy (FT-IR) analysis of the bovine serum albumin secondary structure showed apparent protein structure-stabilizing effects of the amorphous **mannitol** and **sodium tetraborate** combination during the freeze-drying process. The **mannitol** and **sodium tetraborate** combination also protected lactate dehydrogenase (LDH) from inactivation during freeze-drying. We conclude that the complex formation and the accompanying reduction in molecular mobility make **sodium tetraborate** an effective **mannitol** crystallization inhibitor in frozen solutions and freeze-dried solids.

CT Animals
*Borates: CH, chemistry
***Boric Acids: CH, chemistry**
Calorimetry, Differential Scanning
Cattle
Crystallization
Freeze Drying
***Mannitol: CH, chemistry**
Protein Structure, Secondary
Serum Albumin, Bovine: CH, chemistry
Spectroscopy, Fourier Transform Infrared
Transition Temperature

RN **11113-50-1 (boric acid)**; **1330-43-4 (sodium borate)**; **69-65-8 (Mannitol)**

CN 0 (Borates); 0 (**Boric Acids**); 0 (Serum Albumin, Bovine)

L102 ANSWER 3 OF 19 MEDLINE on STN

AN 2003455476 MEDLINE

DN PubMed ID: 14518037

TI Rapid separation and laser-induced fluorescence detection of mutated DNA by capillary electrophoresis in a self-coating, low-viscosity polymer matrix.

AU Du Ming; Flanagan James H Jr; Lin Bingcheng; Ma Yinfa

CS Department of Chemistry, University of Missouri-Rolla, Rolla, MO 65409, USA.

SO Electrophoresis, (2003 Sep) 24 (18) 3147-53.
Journal code: 8204476. ISSN: 0173-0835.

CY Germany: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 200406

ED Entered STN: 20031001
Last Updated on STN: 20040615
Entered Medline: 20040614

AB The detection of point and other simple mutations in DNA is important for cancer research and diagnosis and other biological studies. Capillary electrophoresis has been successfully used for separating DNA fragments. However, a low-viscosity polymer sieving buffer for DNA separation with on-line coating has never been reported. In this paper, a new method using capillary electrophoresis with on-line coating and laser-induced fluorescence detection (CE-LIF) for screening for point or simple DNA mutations has been demonstrated. The method uses an on-line dynamic coating technique that increases capillary lifetime and analysis reproducibility, and employs a low-viscosity polymer solution, which allows the user to rinse the capillary rapidly and refill with polymer solution easily. Experiments proved that the additives in the separation buffer for on-line capillary coating do not affect the separation efficiency of the running buffer, and do not interfere with the formation of hydrogen-bonded network between **boric acid**, **mannitol** and hydroxypropylmethylcellulose polymers. The stability of the dynamically coated capillary was quantitatively studied; the capillary lifetime was increased 6- to 7-fold compared with that of permanently coated CE columns. Standard DNA fragments containing mutations, with sizes of 209, 219, and 338 bps, were successfully separated and detected with this system, after the mutated DNA fragments were cleaved by CEL-I endonuclease. The technique is very sensitive for the size-separation of low-range, middle-range, and high-range DNA fragments. Results were compared with the HPLC methods developed by Transgenomic, Inc. and were in good agreement. The method should be applicable to mutation detection for all relevant biological and clinical studies. The factors influencing separations and the stability of dynamic capillary coatings are also discussed in the paper.

CT Check Tags: Comparative Study
Boric Acids

*DNA: AN, analysis
DNA: IP, isolation & purification
*Electrophoresis, Capillary: MT, methods
Endonucleases
Fluorescent Dyes
Hydrogen-Ion Concentration
*Lactose: AA, analogs & derivatives
Lactose: CH, chemistry
Lasers
Mannitol: CH, chemistry
*Methylcellulose: AA, analogs & derivatives
Methylcellulose: CH, chemistry
Point Mutation
Polymers: CH, chemistry
Reproducibility of Results
Research Support, Non-U.S. Gov't
Surface Properties
Time Factors

RN **11113-50-1 (boric acid)**; 63-42-3 (Lactose); **69-65-8 (Mannitol)**; 9004-67-5 (Methylcellulose); 9007-49-2 (DNA); 99705-65-4 (MK 458)

CN 0 (**Boric Acids**); 0 (Fluorescent Dyes); 0 (Polymers); EC 3.1.- (Endonucleases); EC 3.1.30.- (CEL I nuclease)

L102 ANSWER 4 OF 19 MEDLINE on STN
AN 2003231119 MEDLINE
DN PubMed ID: 12753758
TI Crystallisation of amorphous **mannitol** is retarded using **boric acid.**
AU Yoshinari Tomohiro; Forbes Robert T; York Peter; Kawashima Yoshiaki
CS Drug Delivery Group, The School of Pharmacy, University of Bradford, BD7 1DP, Bradford, UK.
SO International journal of pharmaceutics, (2003 Jun 4) 258 (1-2) 109-20. Journal code: 7804127. ISSN: 0378-5173.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200308
ED Entered STN: 20030520
Last Updated on STN: 20030809
Entered Medline: 20030808

AB An approach to inhibit the crystallisation of amorphous **mannitol** was investigated. **Boric acid** was selected as a model additive for a fundamental study of its ability to retard crystallisation and to facilitate characterisation of the properties of the amorphous solid. At concentrations above 5% (w/w) of **boric acid**, the DSC scans indicated that a totally amorphous solid could be prepared by cooling the melted pre-mixture under ambient conditions. An increase in the glass transition temperature (T(g)) was observed with a corresponding increase in **boric acid** content, and their relationship was well fitted by the Gordon-Taylor equation. This result suggested that **mannitol** and **boric acid** mixed homogeneously.The crystallisation profiles of the resultant amorphous compositions were best described by the Avrami-Erofeev equation (n=1/3), which indicated that random nucleation and three-dimensional crystal growth was the best-fitting mechanism of this crystallisation. The activation energy of crystallisation decreased with increasing **boric acid** content, indicating that the temperature dependency for crystallisation decreased with increasing **boric acid** content. Furthermore, the rate of crystallisation at 30 degrees C for **mannitol** alone was 7000 times higher than that of **mannitol** containing 7.5% (w/w) of **boric acid.**

CT ***Boric Acids: CH, chemistry**
Calorimetry, Differential Scanning
Crystallization

```
       Kinetics
        *Mannitol: CH, chemistry
       Research Support, Non-U.S. Gov't
       Temperature
       X-Ray Diffraction
RN     11113-50-1 (boric acid); 69-65-8 (Mannitol)
CN     0 (Boric Acids)

L102 ANSWER 5 OF 19     MEDLINE on STN
AN     2002652871     MEDLINE
DN     PubMed ID: 12412131
TI     DNA separation by microchip electrophoresis using low-viscosity
       hydroxypropylmethylcellulose-50 solutions enhanced by polyhydroxy
       compounds.
AU     Xu Feng; Jabasini Mohammad; Baba Yoshinobu
CS     Department of Medicinal Chemistry, Faculty of Pharmaceutical Sciences, The
       University of Tokushima, Shomachi, Tokushima 770-8585, Japan..
       fengxu64@hotmail.com
SO     Electrophoresis, (2002 Oct) 23 (20) 3608-14.
       Journal code: 8204476. ISSN: 0173-0835.
CY     Germany: Germany, Federal Republic of
DT     Journal; Article; (JOURNAL ARTICLE)
LA     English
FS     Priority Journals
EM     200304
ED     Entered STN: 20021105
       Last Updated on STN: 20030416
       Entered Medline: 20030414
AB     Low-viscosity polymer solutions have potential for double-stranded (ds)
       DNA separations in micrototal analysis systems (micro-TAS).  In this
       paper, we report dilute, low-viscosity hydroxypropylmethylcellulose-50
       (HPMC-50, 11.5 kDa) solutions containing polyhydroxy additives as
       separation media.  Predominant operational variables, such as applied
       electric field strength, fluorescent intercalator (YOPro-1) concentration,
       polymer concentration, and additive concentration, are thoroughly
       investigated.  Fast (within 170 s) and excellent separation of DNA
       restriction fragments ranging in size from 72 to 1353 base pairs (bp) is
       achieved in a 30 mm length channel of polymethylmethacrylate (PMMA)
       microchips at an electric field strength of 300 V/cm, by introducing 8%
       mannitol, 8% glucose or 10% glycerol additives into a 2% HPMC-50/1
       x Tris-borate-EDTA (TBE) solution.  The low-viscosity (40 cP) matrix
       formulation provides both coating of the microchannels and separation of
       DNA in one step.  The performance in the solution surpasses that in highly
       concentrated HPMC-50 solution.  In addition, separation using 1xTris-EDTA
       buffer in the 2% HPMC-50 matrix containing polyhydroxy additives also
       exhibits a notably increased performance.  This is presumably due to
       formation of hydrogen-bonding interactions of polyhydroxy additives with
       HPMC-50 matrix and DNA so as to increase the coupling interactions between
       matrix and DNA molecules during electrophoresis.  The result reflects that
       boric acid is not a prerequisite in polyhydroxy-enhanced
       HPMC-50 solution for separation.
CT      Bacteriophage phi X 174: GE, genetics
       *DNA: IP, isolation & purification
        DNA, Viral: IP, isolation & purification
        Deoxyribonucleases, Type II Site-Specific: ME, metabolism
        Electrophoresis, Capillary: IS, instrumentation
       *Electrophoresis, Capillary: MT, methods
        Glucose: CH, chemistry
        Glycerol: CH, chemistry
          Mannitol: CH, chemistry
       *Methylcellulose: AA, analogs & derivatives
        Miniaturization
        Research Support, Non-U.S. Gov't
        Viscosity
RN     50-99-7 (Glucose); 56-81-5 (Glycerol); 69-65-8 (Mannitol);
       8063-82-9 (hypromellose); 9004-67-5 (Methylcellulose); 9007-49-2 (DNA)
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CN   0 (DNA, Viral); EC 3.1.21.4 (Deoxyribonucleases, Type II Site-Specific);
     EC 3.1.21.4 (GGCC-specific type II deoxyribonucleases)

L102 ANSWER 6 OF 19    MEDLINE on STN
AN   1999158191    MEDLINE
DN   PubMed ID: 10050904
TI   Considerations in the determination of boron at low concentrations.
AU   Downing R G; Strong P L; Hovanec B M; Northington J
CS   R.G.D. Research, Inc., Niskayuna, NY 12309, USA.
SO   Biological trace element research, (1998 Winter) 66 (1-3) 3-21.  Ref: 65
     Journal code: 7911509. ISSN: 0163-4984.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
     General Review; (REVIEW)
     (REVIEW, TUTORIAL)
LA   English
FS   Priority Journals
EM   199905
ED   Entered STN: 19990517
     Last Updated on STN: 19990517
     Entered Medline: 19990504
AB   Experimental evidence now supports the nutritional essentiality of boron
     (B) in some biological systems, and accordingly, the need for reliable
     analytical B data is increasing.  However, the accurate determination of B
     in biological materials is a formidable challenge at low concentrations
     (<1 mg B/kg).  Recent studies still show significant analytical
     discrepancies in the analysis of animal tissues and fluids, despite the
     development of instrumental techniques such as TIMS, ICP-MS, ICP-ES, ICAP,
     SIMS, NA-MS, PGAA, NRA, and so forth, which have demonstrated detection
     limits approaching or exceeding (microg B/kg concentrations.  Since
     boric acid is both volatile and ubiquitous in nature,
     the chemical and physical pathways for B contamination and its loss are
     manifold, especially during sample preparation.  An added obstacle
     is the inadequacy of biological reference materials certified for B below
     mg B/kg.  With an emphasis toward sample preparation and ICP-MS analysis,
     examples are provided in this article to help the analyst avoid common
     problems associated with the analysis of B from biological sources.
     Topics that are discussed include contamination from Teflon vessels during
     microwave digestion, losses owing to freeze-drying, B isotopic variations,
     standards preparation, reagent backgrounds, and instrumental
     interferences.
CT    Animals
     *Boron: AN, analysis
      Boron: ST, standards
      Chemistry, Analytical: MT, methods
      Chemistry, Analytical: ST, standards
      Humans
      Reference Standards
      Research Support, Non-U.S. Gov't
      Sensitivity and Specificity
RN   7440-42-8 (Boron)

L102 ANSWER 7 OF 19    MEDLINE on STN
AN   97070040    MEDLINE
DN   PubMed ID: 8913020
TI   Isolation of viable sperm cells from tobacco (Nicotiana tabacum).
AU   Cao Y; Reece A; Russell S D
CS   Department of Botany and Microbiology, University of Oklahoma, Norman
     73019-0245, USA.
SO   Zygote (Cambridge, England), (1996 May) 4 (2) 81-4.
     Journal code: 9309124. ISSN: 0967-1994.
CY   ENGLAND: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   199702
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ED    Entered STN: 19970306
      Last Updated on STN: 19970306
      Entered Medline: 19970224
AB    Viable sperm cells of Nicotiana tabacum were isolated by the semi-vivo
      technique.  After pollination, excised styles were floated, cut end
      immersed, in a solution of 15% sucrose with 0.01% boric
      acid and 0.03% Ca(NO3)2 at 27 degrees C in a growth chamber until
      pollen tubes emerged.  After sperm cells were formed (at least 8 h after
      pollination) tubes were immersed in a 9% mannitol solution.  In
      this solution, sperm cells are nearly ellipsoidal and retain viability for
      over 6 h.
CT     Cell Survival
      *Culture Techniques: MT, methods
       Cytoplasm
       Fluoresceins: CH, chemistry
       Fluorescence
       Microscopy
      *Plants, Toxic
       Pollen: CH, chemistry
      *Pollen: CY, cytology
      *Pollen: PH, physiology
       Research Support, U.S. Gov't, Non-P.H.S.
      *Tobacco: PH, physiology
RN    596-09-8 (3',6'-diacetylfluorescein)
CN    0 (Fluoresceins)

L102 ANSWER 8 OF 19     MEDLINE on STN
AN    95173532      MEDLINE
DN    PubMed ID: 7868988
TI    Removal of borate from tritiated gangliosides via the
      mannitoborate complex.
AU    Yohe H C
CS    Department of Veterans Affairs Medical and Regional Office Center, White
      River Junction, VT 05001.
SO    Journal of lipid research, (1994 Nov) 35 (11) 2100-2.
      Journal code: 0376606. ISSN: 0022-2275.
CY    United States
DT    Journal; Article; (JOURNAL ARTICLE)
LA    English
FS    Priority Journals
EM    199503
ED    Entered STN: 19950407
      Last Updated on STN: 19970203
      Entered Medline: 19950327
AB    Purified gangliosides were radiolabeled by exposure to sodium boro
      [3H]hydride in the presence of palladium on barium sulfate.  After
      centrifugation to remove the catalyst, borate was complexed with
      mannitol and the resulting mannitoborate complex and
      salts were removed by reversed phase chromatography.  The labeled
      gangliosides were repurified by ion exchange and silica gel
      chromatographies.  Radiopurity was determined by autoradiography of
      two-dimensional thin-layer chromatograms of the gangliosides.  The method
      eliminates the need for extensive dialysis or repeated methanol
      evaporations to remove borate thus reducing time and the volume of labeled
      waste.
CT     Autoradiography
       Barium Sulfate
        *Boric Acids: IP, isolation & purification
       Borohydrides
       Chromatography, High Pressure Liquid
       Chromatography, Thin Layer
      *Gangliosides: CH, chemistry
       Isotope Labeling
        *Mannitol
       Palladium
       Research Support, U.S. Gov't, Non-P.H.S.
      Tritium
RN    10028-17-8 (Tritium); 11113-50-1 (boric acid); 16940-66-2
      (sodium borohydride); 69-65-8 (Mannitol); 7440-05-3 (Palladium);
      7727-43-7 (Barium Sulfate)
CN    0 (Boric Acids); 0 (Borohydrides); 0 (Gangliosides)

L102 ANSWER 9 OF 19    MEDLINE on STN
AN    89123649     MEDLINE
DN    PubMed ID: 3065345
TI    Free-flow electrophoretic apparatus for separation and concentration of
      proteins.
AU    Shukun S A; Gavryushkin A V; Brezgunov V N; Zav'yalov V P
CS    Institute of Immunology, Ministry of Medical and Microbiological Industry,
      Moscow Region, U.S.S.R.
SO    Journal of chromatography, (1988 Nov 18) 432 137-51.
      Journal code: 0427043. ISSN: 0021-9673.
CY    Netherlands
DT    Journal; Article; (JOURNAL ARTICLE)
LA    English
FS    Priority Journals
EM    198903
ED    Entered STN: 19900308
      Last Updated on STN: 19900308
      Entered Medline: 19890323
AB    Protein separation in the free-flow electrophoretic apparatus with 48
      channels at both the inlet and outlet using "artificial" pH gradients was
      investigated.  The separation was carried out in borate-mannitol
      pH gradients and in pH gradients created by the concentration gradient of
      boric acid in the solutions of borax and
      mannitol.  The separation pattern depended on the ratio of the
      rate of sample injection to the flow-rate of solutions in the separation
      chamber and did not change when the protein concentration in the sample
      was changed.  The protein separation in the pH gradient was better than in
      case of conventional free-flow electrophoresis.  The free-flow
      electrophoretic apparatus with multi-channel inlet of the separation
      chamber is suitable for concentration of biological materials, e.g.
      proteins and bacterial cells.
CT     Alkaline Phosphatase: IP, isolation & purification
       Animals
         Boric Acids: DU, diagnostic use
       Cattle
       Electrophoresis
       Escherichia coli: EN, enzymology
       Hemoglobins: IP, isolation & purification
       Hydrogen-Ion Concentration
      *Proteins: IP, isolation & purification
CN    0 (Boric Acids); 0 (Hemoglobins); 0 (Proteins); EC
      3.1.3.1 (Alkaline Phosphatase)

L102 ANSWER 10 OF 19    MEDLINE on STN
AN    85292620     MEDLINE
DN    PubMed ID: 4032276
TI    Automated flow-injection pseudotitration of boric acid
      .
AU    Anagnostopoulou P I; Koupparis M A
SO    Journal of pharmaceutical sciences, (1985 Aug) 74 (8) 886-8.
      Journal code: 2985195R. ISSN: 0022-3549.
CY    United States
DT    Journal; Article; (JOURNAL ARTICLE)
LA    English
FS    Priority Journals
EM    198510
ED    Entered STN: 19900320
      Last Updated on STN: 19900320
      Entered Medline: 19851024
AB    An automated flow-injection pseudotitrimetric determination of
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boric acid, using a flow-injection photometric analyzer controlled by a microcomputer, is described. The method is based on the injection of 200 microL of sample in a flowing stream of **mannitol** -bromothymol blue "titrant" and measuring the peak width in time units. Equivalent times of 10-70 s are measured with CV values of 0.1-0.4% (n = 5) and the analytical range is 1.5-309 mg/100 mL (2.5 X 10(-4)-5 X 10(-2 M) of **boric acid.** The method was evaluated by performing recovery studies in mixtures (mean 99.8%) and assays of commercial preparations which were compared with the official classical titrimetric method.

CT ***Boric Acids: AN, analysis**
Chemistry, Analytical
Indicators and Reagents
Photometry

RN **11113-50-1 (boric acid)**

CN 0 (**Boric Acids**); 0 (Indicators and Reagents)

L102 ANSWER 11 OF 19 MEDLINE on STN

AN 85035618 MEDLINE

DN PubMed ID: 6149445

TI Discriminative effect of gamma-glutamyl transpeptidase inhibitors on metabolism of leukotriene C4 in peritoneal cells.

AU Aharony D; Dobson P

SO Life sciences, (1984 Nov 19) 35 (21) 2135-42.
Journal code: 0375521. ISSN: 0024-3205.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198412

ED Entered STN: 19900320
Last Updated on STN: 19970203
Entered Medline: 19841219

AB Leukotrienes are naturally-occurring metabolites of arachidonic acid that are formed via the 5-lipoxygenase pathway in several tissues. Rat peritoneal cells (RPC) can produce leukotrienes C4, D4 and E4 (LTC4, LTD4 and LTE4) in response to stimulation with the calcium ionophore A23187 (1,2). The mechanism of enzymatic conversion of LTC4 to LTD4 is presumed to be via the action of gamma-glutamyl transpeptidase (gamma-GTPase, Figure 1) and has been demonstrated with purified enzymes from rat and porcine kidneys (3-6). We report that RPC contain gamma-GTPase-like activity that catalyzes the liberation of p-Nitroaniline (p-NA) from the chromophoric substrate gamma-glutamyl-p-nitroanilide (gamma-GpNA) in the presence of the acceptor molecules glycylglycine and L-cysteine. Furthermore, we demonstrate that under similar conditions, this preparation catalyzes the conversion of LTC4 to LTD4. Activity with gamma-GpNA is inhibited by D,L-gamma-glutamyl(o-carboxy)-phenylhydrazide (GOP) and serine-borate complex, (competitive inhibitors of kidney gamma-GTPase), and 6-diazo-5-oxo-L-norleucine (DON) and o-diazo-acetyl-L-serine (AZA), (irreversible inhibitors of kidney gamma-GTPase). In contrast, conversion of both endogenously-generated or exogenous LTC4 into LTD4 by RPC is inhibited only by serine-borate complex. These results suggest that RPC contain at least two distinct forms of gamma-GTPase; one capable of recognizing gamma-GpNA and susceptible to inhibition by all four compounds, and a second form utilizing also LTC4 as substrate, and is not inhibited by high concentrations of several "classic" gamma-GTPase inhibitors.

CT Aniline Compounds: ME, metabolism
Animals
*Ascitic Fluid: ME, metabolism
Azaserine: PD, pharmacology
Boric Acids: PD, pharmacology
Calcimycin: PD, pharmacology
Cattle
Diazooxonorleucine: PD, pharmacology
Glutamates: ME, metabolism

Glutamine: AA, analogs & derivatives
Kidney: EN, enzymology
Kinetics
Rats
*SRS-A: ME, metabolism
Serine: PD, pharmacology
*gamma-Glutamyltransferase: AI, antagonists & inhibitors
gamma-Glutamyltransferase: ME, metabolism
RN 100-01-6 (4-nitroaniline); **11113-50-1 (boric acid)**; 115-02-6
(Azaserine); 52665-69-7 (Calcimycin); 56-45-1 (Serine); **56-85-9**
(Glutamine); **7300-59-6 (gamma-glutamine-4-nitroanilide)**;
764-17-0 (Diazooxonorleucine)
CN 0 (Aniline Compounds); 0 (**Boric Acids**); 0
(Glutamates); 0 (SRS-A); EC 2.3.2.2 (gamma-Glutamyltransferase)

L102 ANSWER 12 OF 19 MEDLINE on STN
AN 84242436 MEDLINE
DN PubMed ID: 6429316
TI Influence of isotonic agents on the stability of thimerosal in ophthalmic formulations.
AU Reader M J
SO Journal of pharmaceutical sciences, (1984 Jun) 73 (6) 840-1.
Journal code: 2985195R. ISSN: 0022-3549.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198408
ED Entered STN: 19900320
Last Updated on STN: 19980206
Entered Medline: 19840822
AB Storage tests on the stability of thimerosal in trimethoprim-polymyxin B eyedrop formulations containing isotonic agents other than sodium chloride have been carried out. The HPLC assay of thimerosal in stored formulations containing **boric acid** and EDTA decreased with time and temperature, while formulations containing propylene glycol, glycerol, and **mannitol** showed no significant decrease in thimerosal assay compared with a formulation containing no isotonic agent. The latter group provide suitable alternatives to sodium chloride, which has been shown to have a seriously detrimental effect on thimerosal stability.
CT **Boric Acids**
Chromatography, High Pressure Liquid: MT, methods
Drug Stability
Drug Storage
Edetic Acid
*Ethylmercury Compounds: AN, analysis
Excipients
Glycerol
Mannitol
Ophthalmic Solutions: AN, analysis
Propylene Glycols
Sodium Chloride
Temperature
*Thimerosal: AN, analysis
Time Factors
RN 54-64-8 (Thimerosal); 56-81-5 (Glycerol); 60-00-4 (Edetic Acid);
69-65-8 (Mannitol); 7647-14-5 (Sodium Chloride)
CN 0 (**Boric Acids**); 0 (Ethylmercury Compounds); 0
(Excipients); 0 (Ophthalmic Solutions); 0 (Propylene Glycols)

L102 ANSWER 13 OF 19 MEDLINE on STN
AN 76213190 MEDLINE
DN PubMed ID: 776969
TI Regulation of glutaminase B in Escherichia coli. II. Modulaltion of activity by carbosylate and borate ions.

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AU    Prusiner S; Stadtman E R
SO    Journal of biological chemistry, (1976 Jun 10) 251 (11) 3457-62.
      Journal code: 2985121R. ISSN: 0021-9258.
CY    United States
DT    Journal; Article; (JOURNAL ARTICLE)
LA    English
FS    Priority Journals
EM    197608
ED    Entered STN: 19900313
      Last Updated on STN: 19970203
      Entered Medline: 19760823
AB    Glutaminase B is both activated and inhibited by L-glutamate, the product
      of the reaction.  The activation process is time- and temperature-
      dependent.  Activation by L-glutamate alters the Vmax, So.5, and shape of
      the substrate saturation curve.  The activation decays as a first order
      process with time after separation of L-glutamate from glutaminase B.
      L-Glutamate inhibits both glutaminase B and the glutamate-activated
      enzyme.  Like L-glutamate, borate activates and inhibits glutaminase B.
      Inhibition of the enzyme by glutamine and glutamate analogs is
      also examined and similarities between the glutamate activation and
      activation by warming at 23 degrees are noted.
CT     Adenosine Triphosphate: PD, pharmacology
      *Amino Acids: PD, pharmacology
        *Boric Acids: PD, pharmacology
      *Carboxylic Acids: PD, pharmacology
       Enzyme Activation: DE, drug effects
       Escherichia coli: DE, drug effects
      *Escherichia coli: EN, enzymology
       Glutamates: PD, pharmacology
      *Glutaminase: ME, metabolism
       Kinetics
       Molecular Weight
       Structure-Activity Relationship
RN    56-65-5 (Adenosine Triphosphate)
CN    0 (Amino Acids); 0 (Boric Acids); 0 (Carboxylic
      Acids); 0 (Glutamates); EC 3.5.1.2 (Glutaminase)

L102 ANSWER 14 OF 19     MEDLINE on STN
AN    76172698      MEDLINE
DN    PubMed ID: 57261
TI    [Isoelectric focusing of human serum albumin in the boric-borate-buffer-
      mannitol system in the multicellular apparatus].
      Izoelektricheskoe fokusirovanie syvorotochnogo al'bumina cheloveka v
      sisteme borno-boratnyi-bufer-mannit v mnogoiacheistom apparate.
AU    Troitskii G V; Azhitskii G Iu; Malyi K D
SO    Laboratornoe delo, (1975) (12) 708-12.
      Journal code: 18230140R. ISSN: 0023-6748.
CY    USSR
DT    Journal; Article; (JOURNAL ARTICLE)
LA    Russian
FS    Priority Journals
EM    197607
ED    Entered STN: 19900313
      Last Updated on STN: 19900313
      Entered Medline: 19760706
CT     Blood Protein Electrophoresis: IS, instrumentation
      *Blood Protein Electrophoresis: MT, methods
       Borates: DU, diagnostic use
         Boric Acids: DU, diagnostic use
       Electrophoresis, Polyacrylamide Gel: MT, methods
       Humans
      *Isoelectric Focusing
         Mannitol: DU, diagnostic use
      *Serum Albumin: AN, analysis
RN    69-65-8 (Mannitol)
CN    0 (Borates); 0 (Boric Acids); 0 (Serum Albumin)
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L102 ANSWER 15 OF 19     MEDLINE on STN
AN     75171790     MEDLINE
DN     PubMed ID: 1133686
TI     Determination of sorbitol and mannitol in pharmaceuticals by GLC
       of tris-n-butyldiboronate esters.
AU     Sondack D L
SO     Journal of pharmaceutical sciences, (1975 Jan) 64 (1) 128-9.
       Journal code: 2985195R. ISSN: 0022-3549.
CY     United States
DT     Journal; Article; (JOURNAL ARTICLE)
LA     English
FS     Priority Journals
EM     197508
ED     Entered STN: 19900310
       Last Updated on STN: 19900310
       Entered Medline: 19750826
AB     A rapid method for determining sorbitol or mannitol in
       pharmaceuticals by GLC using the tris-n-butyldiboronate esters is
       described.  An internal standard unrelated to the hexitols is utilized to
       avoid the problems of cross-contamination introduced by the use of other
       hexitols.
CT     *Boric Acids
       *Boron Compounds
        Chromatography, Gas: MT, methods
         *Mannitol: AN, analysis
       *Sorbitol: AN, analysis
RN     50-70-4 (Sorbitol); 69-65-8 (Mannitol)
CN     0 (Boric Acids); 0 (Boron Compounds)

L102 ANSWER 16 OF 19     MEDLINE on STN
AN     70125622     MEDLINE
DN     PubMed ID: 4313468
TI     Assays of glutamine and its aminotransferase with the
       enol-borate of phenylpyruvate.
AU     Kupchik H Z; Knox W E
SO     Archives of biochemistry and biophysics, (1970 Jan) 136 (1) 178-86.
       Journal code: 0372430. ISSN: 0003-9861.
CY     United States
DT     Journal; Article; (JOURNAL ARTICLE)
LA     English
FS     Priority Journals
EM     197004
ED     Entered STN: 19900101
       Last Updated on STN: 19980206
       Entered Medline: 19700410
CT     Check Tags: Female; Male
        Age Factors
        Animals
        Asparagine
         *Boric Acids
        Carcinoma, Hepatocellular: EN, enzymology
        Cold
        Drug Stability
        Fetus: EN, enzymology
        Glutamates
         *Glutamine: AN, analysis
          Glutamine: BL, blood
        Hydrogen-Ion Concentration
        Kidney: EM, embryology
       *Kidney: EN, enzymology
        Kinetics
        Liver Neoplasms: EN, enzymology
        Liver Regeneration
        Mammary Neoplasms, Experimental: EN, enzymology
        Mathematics
       Methods
       Neoplasms, Experimental: EN, enzymology
       Organ Specificity
      *Phenylpyruvic Acids
       Rats
       Sex Factors
       Solubility
       Spectrophotometry
       Time Factors
      *Transaminases: AN, analysis
       Transaminases: AI, antagonists & inhibitors
       Ultraviolet Rays
RN    56-85-9 (Glutamine); 7006-34-0 (Asparagine)
CN    0 (Boric Acids); 0 (Glutamates); 0 (Phenylpyruvic
      Acids); EC 2.6.1. (Transaminases)

L102 ANSWER 17 OF 19     MEDLINE on STN
AN    69177155      MEDLINE
DN    PubMed ID: 5781915
TI    Gel electrophoresis of proteins in borate buffers. Influence of some
      compounds complexing with boric acid.
AU    Lerch B; Stegemann H
SO    Analytical biochemistry, (1969 Apr 11) 29 (1) 76-83.
      Journal code: 0370535. ISSN: 0003-2697.
CY    United States
DT    Journal; Article; (JOURNAL ARTICLE)
LA    English
FS    Priority Journals
EM    196906
ED    Entered STN: 19900101
      Last Updated on STN: 19900101
      Entered Medline: 19690624
CT   *Borates
       Buffers
       Carbon Isotopes
       Catechols
       Chemistry
       Chromatography, Thin Layer
       Cysteine
       Electrophoresis
       Electrophoresis, Disc
       Fructose
       Glucose
         Mannitol
      *Plant Proteins: AN, analysis
       Plant Viruses
       Ribose
       Salicylic Acids
       Serum Albumin: AN, analysis
       Sorbitol
       Sorbose
RN    30237-26-4 (Fructose); 3615-39-2 (Sorbose); 50-69-1 (Ribose); 50-70-4
      (Sorbitol); 50-99-7 (Glucose); 52-90-4 (Cysteine); 69-65-8
      (Mannitol)
CN    0 (Borates); 0 (Buffers); 0 (Carbon Isotopes); 0 (Catechols); 0 (Plant
      Proteins); 0 (Salicylic Acids); 0 (Serum Albumin)

L102 ANSWER 18 OF 19     MEDLINE on STN
AN    69037439      MEDLINE
DN    PubMed ID: 5698607
TI    In vitro studies on the relationship between boron and peroxidase.
AU    Parish R W
SO    Enzymologia, (1968 Oct 31) 35 (4) 239-52.
      Journal code: 0427141. ISSN: 0013-9424.
CY    Netherlands
DT    Journal; Article; (JOURNAL ARTICLE)
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LA    English
FS    Priority Journals
EM    196901
ED    Entered STN: 19900101
      Last Updated on STN: 19900101
      Entered Medline: 19690109
CT     Boric Acids
      *Boron
       Chlorogenic Acid
       Dialysis
       Hydrogen Peroxide
       Hydrogen-Ion Concentration
      *Indoleacetic Acids
         Mannitol
       Nitrogen
       Oxygen
      *Peroxidases
       Protein Binding
       Pyrogallol
       Spectrum Analysis
       Time Factors
       Ultraviolet Rays
RN    327-97-9 (Chlorogenic Acid); 69-65-8 (Mannitol); 7440-42-8
      (Boron); 7722-84-1 (Hydrogen Peroxide); 7727-37-9 (Nitrogen); 7782-44-7
      (Oxygen); 87-66-1 (Pyrogallol)
CN    0 (Boric Acids); 0 (Indoleacetic Acids); EC 1.11.1.
      (Peroxidases)

L102 ANSWER 19 OF 19     MEDLINE on STN
AN    58026362      MEDLINE
DN    PubMed ID: 13483667
TI    Reversal of boric acid inhibition of growth in certain
      soil micro-organisms.
AU    SHEFNER A M; BURCKHARDT B J
SO    Nature, (1957 Nov 30) 180 (4596) 1207-8.
      Journal code: 0410462. ISSN: 0028-0836.
DT    Journal; Article; (JOURNAL ARTICLE)
LA    English
FS    OLDMEDLINE; NONMEDLINE
OS    CLML5833-26613-88-309-324
EM    200007
ED    Entered STN: 20000825
      Last Updated on STN: 20000825
      Entered Medline: 20000701
ST    borates - effects; mannitol - effects; microorganisms - effect
      of drugs on
RN    69-65-8Q, 87-78-5Q  (MANNITOL)


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